

ARIZONA PUBLIC SERVICE COMPANY

Cholla Power Plant

ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT FOR 2023

COAL COMBUSTION RESIDUALS RULE GROUNDWATER MONITORING SYSTEM
COMPLIANCE

JANUARY 31, 2024





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ARIZONA PUBLIC SERVICE COMPANY

NAVAJO COUNTY, ARIZONA

PROJECT NO.: 1420232012

DATE: JANUARY 31, 2024

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LIST OF ACRONYMS AND ABBREVIATIONS

%	percent
§	section
Annual Report	Annual Groundwater Monitoring and Corrective Action Report
ACM	Assessment of Corrective Measures
ADWR	Arizona Department of Water Resources
amsl	above mean sea level
APS	Arizona Public Service Company
ASD	Alternative Source Demonstration
bgs	below ground surface
BAM	Bottom Ash Monofill
BAP	Bottom Ash Pond
BTV	Background Threshold Value
CCR	coal combustion residuals
CCR Units	CCR landfills and surface impoundments
CFR	Code of Federal Regulations
Cholla	Cholla Power Plant
COCs	Constituents of Concern
CSM	Conceptual Site Model
EDA	Exploratory Data Analysis
FAP	Fly Ash Pond
ft	foot, feet
ft/d	feet per day
GWPS(s)	Groundwater Protection Standard(s)
I-40	Interstate 40
Lbs	pounds
MCL	Maximum Containment Level
memo(s)	memorandum(s)
Moqui	Moqui member of the Moenkopi Formation
Radiation Safety	Radiation Safety Engineering, Inc.
SAP	Sampling and Analysis Plan
SDAWP	Statistical Data Analysis Work Plan
SEDI	Sedimentation Pond



Site	Cholla Power Plant
SSI(s)	statistically significant increase(s)
SSL(s)	statistically significant level(s)
TDS	total dissolved solids
Eurofins	Eurofins TestAmerica Laboratories, Inc.
USEPA	United States Environmental Protection Agency
WSP	WSP USA Environment & Infrastructure, Inc.
Wupatki	Wupatki member of the Moenkopi

GROUNDWATER MONITORING AND CORRECTIVE ACTION PROGRAM OVERVIEW

FACILITY NAME:	ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT	ANNUAL REPORT DATE:	1/31/2024	
Location:	Navajo County, Arizona	Reporting Period:	1/1/2023 – 12/31/2023	
Groundwater Monitoring Program Status				
CCR Unit	Status at Beginning of Reporting Period	Status at End of Reporting Period	Date(s) of Any Program Transitions	Comments
Fly Ash Pond (FAP)	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Bottom Ash Pond (BAP)	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Sedimentation Pond (SEDI)	Closed	No Further Monitoring	10/10/2022	Closure complete
Bottom Ash Monofill (BAM)	Detection Monitoring	Detection Monitoring	N/A	-
Groundwater Monitoring Statistical Analysis Summary				
CCR Unit	Appendix III Constituent(s) with SSIs over Background	Monitoring Wells where SSIs over Background have been Observed‡	Appendix IV Constituent(s) Present at SSL(s) above GWPSs	Monitoring Wells where SSLs above GWPSs have been Observed‡
Fly Ash Pond (FAP)	B, Ca, Cl, F, pH	M-50A, M-51A, W-123	As, Co*, F, Li, Mo,	M-50A, M-51A, W-123
Bottom Ash Pond (BAP)	B, Ca, F, pH, SO ₄ , TDS	M-52A, M-53A, W-305, W-306, W-314	Co, Li*	M-52A, M-53A, W-305, W-306, W-314
Sedimentation Pond (SEDI)	N/A	N/A	N/A	N/A
Bottom Ash Monofill (BAM)	None	None	None	None
Corrective Action Summary				
CCR Unit	Dates when the ACM was Initiated and Completed	Date of Public Meeting Discussing the ACM	Date when Remedy was Selected	Dates when Remedy was Initiated and Completed
Fly Ash Pond (FAP)	2/13/2019; 6/14/2019	8/17/2022	N/A	N/A
Bottom Ash Pond (BAP)	2/13/2019; 6/14/2019	8/17/2022	N/A	N/A
Sedimentation Pond (SEDI)	N/A	N/A	N/A	N/A
Bottom Ash Monofill (BAM)	N/A	N/A	N/A	N/A

Abbreviations:

ACM – Assessment of Corrective Measures * Removed as a constituent of concern based on a successful Alternative Source Demonstration
CCR – Coal Combustion Residuals ‡ Only includes wells where statistical analyses have been performed (i.e., CCR Monitoring Wells)
GWPS – Groundwater Protection Standard
SSI – statistically significant increase
SSL – statistically significant level
N/A – Not Applicable

1 INTRODUCTION

This Annual Groundwater Monitoring and Corrective Action Report for 2023 (Annual Report) was prepared on behalf of Arizona Public Service Company (APS) by WSP USA Environment & Infrastructure (WSP) for the Cholla Power Plant (Cholla or the Site) located in Navajo County, Arizona. The Annual Report summarizes groundwater monitoring and corrective action data collected to support compliance with coal combustion residuals (CCR) groundwater monitoring and corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020).

The CCR Rule became effective on October 19, 2015 and established standards for the disposal of CCR in landfills and surface impoundments (CCR units). In particular, the CCR Rule set forth groundwater monitoring and corrective action requirements for CCR units. The CCR Rule includes the requirement that an “annual groundwater monitoring and corrective action report” be prepared by January 31 for the preceding calendar year (the reporting period). This Annual Report prepared for the 2023 calendar year is intended to document the status of the groundwater monitoring and corrective action programs for each CCR unit, summarize key actions completed, and forecast key activities for 2024. APS additionally considers this report to meet the semiannual reporting requirement of 40 CFR section (§)257.97(a) for selecting and designing remedies pursuant to the CCR Rule during the last half of 2023.

The remainder of Section 1 provides a summary description of the power generating facility, the active CCR units present at the facility, the closed CCR units, the facility’s environmental setting which form the basis for assessment of underlying groundwater conditions, and overview of the CCR groundwater monitoring system. Section 2 presents key groundwater monitoring and corrective action activities performed during the reporting period. Sections 3 and summarize in further detail the activities performed for the groundwater monitoring and corrective action programs respectively during the reporting period. Key activities identified for the upcoming year are presented in Section.

1.1 SITE BACKGROUND

1.1.1 FACILITY AND CCR UNIT DESCRIPTION

Facility Description. Cholla is a coal-fired power plant that had two electric generating units (Units 1 and 3) in operation during 2023. Units 1 and 3 with a combined nameplate capacity of 425.9 megawatts are owned and operated by APS. Unit 2 was retired in October of 2015 and Unit 4 was retired in December 2020. Coal burned at the plant was previously sourced from the McKinley Mine in New Mexico. When the McKinley Mine closed in 2009, the source of coal switched to the Lee Ranch and El Segundo mines near Grants, New Mexico.

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

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

Closed CCR Unit Description. The Sedimentation Pond (SEDI) was a single CCR unit formerly located in the plant area, south of I-40 (**Figure 1-2**) that was placed into service in 1976 and ceased receiving CCR in October 2020. Demolition and excavation of the SEDI was complete in October 2021.

The SEDI was delisted as a CCR unit following the achievement of clean closure in October 2022 (WSP, 2023a). As of October 2022, samples are no longer required to be collected at the former SEDI background and downgradient boundary wells (M-56A, M-57A, M-58A, and M-62A) to support compliance with CCR groundwater monitoring and corrective action requirements.

1.1.2 ENVIRONMENTAL SETTING

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

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

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

Surface Water Hydrology. The plant is located north of the Little Colorado River within the Middle Little Colorado watershed. The Little Colorado River is a meandering, perennial stream with intermittent reaches in a large alluvial floodplain. Tanner Wash is an ephemeral stream that flows adjacent to the BAP and BAM and discharges into the Little Colorado River to the west of the plant site.

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

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

- **Wupatki Member:** the unit is the lowest member of the Moenkopi Formation and is approximately 30 to 50 ft thick. The Wupatki Formation is comprised of relatively permeable sandstone and is in hydraulic connection with the underlying Coconino Sandstone.
- **Coconino Sandstone:** The Permian-age Coconino Sandstone is the principal lithologic unit of the C-aquifer, a regionally important aquifer for water supply. It is composed of very fine- to fine-grained sandstone with variable permeability depending on the degree of fracturing and cementation. The unit is approximately 375 to 400 ft thick in the vicinity of the plant.
- **Schnebly Hill Formation:** The Schnebly Hill Formation is a very fine-grained, reddish sandstone that is about 300 to 350 ft thick near the plant. It is part of the C-aquifer, but its hydraulic conductivity is about 10 to 28 percent that of the Coconino Sandstone.
- **Supai Formation:** The Pennsylvanian to Lower Permian Supai Formation underlies the Coconino Sandstone. It has minimal impact on the surface operations of Cholla, other than containing an approximately 600 ft thick deposit of halite and anhydrite in the Cholla well field area that impacts groundwater quality both regionally and in the vicinity of the plant.

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

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

The second hydrogeologic unit is the C-aquifer, which consists of the Coconino Sandstone and Schnebly Hill Formation in the vicinity of the plant. Groundwater in the C-aquifer is present under confined to semi-confined conditions in areas north of the Little Colorado River where the Moqui member of the Moenkopi Formation (Moqui) acts as a confining bed. Groundwater movement in the C-aquifer is generally to the north. However, until recently, pumping from the Cholla production well field (south and west of the plant) created a cone of depression that influenced the localized groundwater flow in the area. Groundwater pumping rates from the production well field have significantly declined since shutdown of electrical generating Unit 2 in 2015 and Unit 4 in 2020 and a corresponding increase in the piezometric surface of the C-aquifer has been observed. Near the FAP, the inferred flow of groundwater in the C-aquifer is to the west or northwest, possibly due to the broad, northwest-trending anticline that extends from the vicinity of the FAP to near Joseph City.

In areas where the C-aquifer in the Coconino Sandstone is confined (generally north of the Little Colorado River), the Moqui aquitard limits hydraulic connection between the alluvial aquifer and the C-aquifer and is effectively bedrock when considering water quality conditions and groundwater movement in a significant portion of the alluvial aquifer. However, connections between the C-aquifer and the alluvial aquifer are becoming better understood as the C-aquifer recovers from long-term production well pumping associated with plant operations. Recent water level monitoring indicates a regional increase in groundwater elevations in the alluvial aquifer that appears to be related to upwelling of groundwater from the C-aquifer in areas where the Moqui is not present or insufficiently thick.

Additional evidence that hydraulic interactions between the relevant hydrostratigraphic units and the Moqui are complex includes the results of investigations which indicate localized saturation occurs in the uppermost layer of the Moqui downgradient of the BAP and FAP. These lenses of saturation in the Moqui occur principally at the base of historical drainage channels where the unit is weathered or where penetrations from piezometer or

monitoring well installation activities have fractured the mudstone of the Moqui and allowed overlying alluvial groundwater to infiltrate into the unit (WSP, 2023b).

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

- **FAP (other wash and Little Colorado River Alluvium):** The FAP was constructed by damming an ephemeral surface water channel with a limited watershed that previously discharged to the Little Colorado River floodplain. The surface impoundment is primarily underlain by the relatively impermeable Moqui member of the Moenkopi Formation; however, a relatively thin layer of alluvial sediments underlie the FAP (particularly in the vicinity of the dam) and is in communication with alluvium downgradient of the FAP. The FAP dam has a clay core that extends through the alluvium to Moqui bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In the middle of the dam where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended approximately one to two feet into bedrock. Groundwater at the toe of the FAP dam flows west-southwest primarily through shallow alluvial sediments (which are fairly fine grained) and then merges with the Little Colorado River Alluvium where the predominant direction of groundwater flow is to the west. Localized saturation also occurs in the weathered, uppermost portion of the Moqui near the FAP dam and downgradient of the FAP, near the Hunt seep.
- **BAP (Tanner Wash Alluvium):** The BAP is located in an ephemeral surface water channel that formerly discharged into Tanner Wash. The northern and western abutments of the BAP dam are constructed on the Moenkopi Formation, whereas the length of the southern portion of the dam is constructed predominantly on alluvial material. The BAP dams have a clay core that extend through the alluvium to bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In regions where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. However, due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 30 to 40-ft thick layer of alluvium below the base of the cutoff wall in that region (at an elevation of 4,980 ft amsl). Groundwater near the BAP flows south-southwest primarily through the Tanner Wash Alluvium to its confluence with the Little Colorado River Alluvium. Near the southern BAP dam, groundwater flows within a localized region of the weathered, uppermost portion of the Moqui.
- **BAM (Coconino Sandstone):** The BAM is a CCR landfill constructed in the Tanner Wash watershed. It is constructed on the Moqui member of the Moenkopi Formation where no saturated alluvium is present; water levels from nearby wells indicate that the Moenkopi is unsaturated beneath the BAM. Therefore, the uppermost hydrogeologic unit at the BAM is the Coconino Sandstone Aquifer which exists under confined conditions more than 300 ft below ground surface (bgs) in the vicinity of the BAM. Groundwater in the Coconino Aquifer beneath the BAM flows to the north-northwest.

1.2 CCR GROUNDWATER MONITORING SYSTEM

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

Installation of the networks is summarized in the *Cholla Power Plant Coal Combustion Residuals Program – Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks* (CCR Groundwater Monitoring System Certification Report; Montgomery & Associates, 2017 as well as an update to the report prepared during the 2022 reporting period; WSP, 2023c). Per the CCR Rule, site monitoring systems are required to evaluate groundwater quality that is representative of background (i.e., groundwater that has not been affected by leakage from a CCR unit) and groundwater passing the downgradient boundary of each CCR unit in the uppermost water-bearing hydrostratigraphic unit underlying the CCR unit.

In addition to the CCR groundwater monitoring system wells, there are many non-CCR supplementary monitoring wells and extraction wells at the Site that are not part of the CCR groundwater monitoring systems but may provide useful information to the program. The extraction wells were installed to support the seepage collection

systems at the FAP and BAP as part of interim response measures. Some extraction wells are inactive in terms of extraction operations but the well can be monitored to assess groundwater conditions. **Table 1-2** and **Figure 1-2** identify the supplemental and extraction wells.

1.2.1 MONITORING SYSTEM DESCRIPTION

1.2.1.1 BACKGROUND GROUNDWATER MONITORING WELLS.

Background groundwater quality at the Site can be established by a single monitoring well or a group of monitoring wells. If a group of monitoring wells is used, the wells should be screened within the same lithologic unit, exhibit similar groundwater chemistry, illustrate similar statistical merits, and be supported by the CSM. The grouping and adequacy of background wells identified for Cholla to assess background water quality is adequate based on the current understanding of the geological and hydrostratigraphic conditions.

Per the CCR Groundwater Monitoring System Certification Report (Montgomery & Associates, 2017; WSP, 2023c), the following monitoring wells are designated as “background monitoring wells” for the respective geologic and hydrostratigraphic conditions underlying Cholla:

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

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

1.2.1.2 DOWNGRADIENT CCR MONITORING WELLS.

Per the CCR Groundwater Monitoring System Certification Report (Montgomery & Associates, 2017; WSP, 2023c), a total of 22 CCR compliance wells are in place at the Site to monitor the downgradient groundwater conditions of each CCR unit (**Table 1-2**). Downgradient boundary wells assess for leakage from each CCR unit and the remaining downgradient wells evaluate the nature and extent of groundwater conditions associated with identified releases from CCR units. Fifteen of the monitoring wells are installed in either the Little Colorado River or Tanner Wash Alluvium. Four monitoring wells are screened in weathered portions of the Moqui either with or without some interception of overlying alluvium. The three remaining downgradient wells are completed in the Coconino Sandstone. The grouping of monitoring wells, spatial density, and coverage of the monitoring well network is adequate based on the current understanding of the geological and hydrostratigraphic conditions (**Figure 1-2**). The wells are grouped by their respective CCR unit, as described below:

- **FAP Downgradient Boundary and Downgradient Wells (Alluvium and Moenkopi Moqui):** The groundwater flow direction in the alluvium downgradient of the FAP dam (i.e., the waste boundary) is west-southwest. The alluvial thickness in that area is limited; in some places it may be up to 50 ft thick but in others it is non-existent. Three downgradient boundary wells were initially designated for the FAP boundary,

W-123, M-50A and M-51A. A cone penetrometer test investigation conducted downgradient of the FAP dam during 2020 suggests that the now-abandoned W-123 was substantially completed in the Moqui (Wood, 2021a). While drilling replacement well W-123R in May 2021, a highly weathered and saturated Moqui layer was encountered from 14.5 to 15.5 ft bgs at the top of the unit. To ensure that W-123R intercepts the alluvial aquifer and the saturated Moqui and that it complies with Arizona Department of Water Resources (ADWR) surface completion requirements, the well was constructed with a screened interval of 8 to 18 ft bgs (Wood, 2022a). In 2018, three additional wells were installed to evaluate the nature and extent of groundwater conditions downgradient of the FAP. The wells are identified as MW-65A, MW-66A, and MW-67A.

- **BAP Downgradient Boundary and Downgradient Wells (Tanner Wash Alluvium and Moenkopi Moqui):** The groundwater flow direction in the alluvium underlying the BAP is generally to the southwest along Tanner Wash; however, there is a radial component of groundwater flow toward the east-southeast due to hydraulic head from the BAP. As of the end of the reporting period, nine downgradient boundary monitoring wells are designated for the BAP: M-52A, M-53A, MW-71A, MW-72M, MW-73A, MW-74M, W-305, W-306, and W-314. Monitoring wells M-53A, W-305, W-306, and W-314 are screened in the Tanner Wash Alluvium based on the available well log information. A drilling investigation conducted in 2019 indicated that M-52A may partially be completed in the weathered upper portion of the Moqui (Wood, 2020a). MW-71A, MW-72M, MW-73A, and MW-74M were installed in 2021 as part of BAP pre-design studies and added as downgradient boundary wells in the updated *CCR Groundwater Monitoring System Certification Report* (WSP, 2023c). Four additional downgradient monitoring wells (MW-76A, MW-77A, MW-78A, and MW-79A) were installed as part of the BAP pre-design studies and are designated to evaluate the nature and extent of groundwater conditions downgradient of the BAP. The identifications for some monitoring wells include an “A” or “M.” The identifications ending with “A” designations are screened in the Tanner Wash Alluvium and those ending with “M” designations are screened in the locally saturated upper layer of the Moqui (WSP, 2023c).
- **BAM Downgradient Boundary Wells (Coconino Sandstone):** The uppermost hydrogeologic unit underlying the BAM is the C-aquifer in the Coconino Sandstone, which flows towards the north-northwest in that vicinity. Three downgradient boundary monitoring wells were installed to monitor the quality of groundwater passing the waste boundary of the BAM. The wells are named M-59, M-60, and M-61, and are completed in the Coconino Sandstone.

1.2.2 IMPLEMENTED CHANGES TO MONITORING SYSTEM

No changes to the current monitoring system occurred during the reporting period.

2 SUMMARY OF KEY ACTIONS COMPLETED

A summary of key actions conducted at the Site in 2023 to address CCR Rule requirements is as follows:

- *Documentation of Groundwater Monitoring Activities Conducted in 2022* – 40 CFR §257.90(e) requires that an Annual Groundwater Monitoring and Corrective Action Report for applicable sites be prepared for existing CCR units annually on January 31 of the following year. During the reporting period, the *Annual Groundwater Monitoring and Corrective Action Report for 2022* was prepared (WSP, 2023a), placed in the facility’s operating record, and posted to APS’s CCR information webpage in accordance with 40 CFR §257.105(h)(1) and 40 CFR §257.106(h)(1).
- *Continuation of the Detection Monitoring Program at the BAM* – 40 CFR §257.94(b) requires the continuation of detection monitoring at a semi-annual frequency for Appendix III constituents at CCR units where statistical analysis of Appendix III constituent data do not indicate a statistically significant increase (SSI) over background. Section 3.2 summarizes detection monitoring activities conducted during the reporting period.
- *Statistical Analyses of Appendix III Constituents at the BAM* – For CCR units in the detection monitoring program, 40 CFR §257.93(h) requires the evaluation of Appendix III data for constituents in groundwater for SSIs over background no later than 90 days after completing the associated sampling and analysis. During the reporting period, two statistical analyses were performed using updated analytical data for Appendix III constituents at BAM monitoring wells. The statistical analyses are summarized in Section 3.3.1.
- *Preparation of a Semi-Annual Progress Report on Remedy Selection for the FAP and the BAP* – 40 CFR §257.97(a) requires the preparation of semi-annual reports which document the progress of remedy selection for CCR units that have impacted groundwater. During July of the 2023 reporting period, the ninth semi-annual report was prepared to fulfill the requirement (Section 4.6).
- *Characterization of the Nature and Extent of Releases from the FAP and the BAP* – 40 CFR §257.95(g)(1) requires characterization of the nature and extent of releases from CCR units where one or more Appendix IV constituents exceed GWPSs at statistically significant levels (SSLs). Section 4.2 summarizes characterization activities performed during the reporting period to address the requirement.
- *Interim Response Measures at the FAP* – Interim response measures performed at the FAP during the reporting period consisted of completion of documentation of the expansion of the FAP seepage collection system and troubleshooting of the system. Interim response measures at the FAP performed during the reporting period are further detailed in Section 4.5.2.
- *BAP Pre-design Studies Necessary to Support Remedy Selection* – Aquifer testing was performed at wells located downgradient of the BAP in June 2023 to support BAP pre-design studies. A technical memorandum that summarizes an evaluation of the aquifer tests was prepared in January 2024. The BAP pre-design studies are further explained in Section 4.4.1.

3 GROUNDWATER MONITORING PROGRAM

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

The first phase of groundwater monitoring is the detection monitoring phase. Detection monitoring focuses on a set of CCR constituents (listed in Appendix III of the CCR Rule) that are more mobile and generally present at higher concentrations. These attributes can contribute to making the constituents readily quantified and early indicators of a potential release from a CCR unit to groundwater. If SSIs are detected for Appendix III constituents over established background levels, otherwise known as background threshold values (BTVs), in downgradient boundary wells and cannot be demonstrated to be associated with a source other than the CCR unit, then groundwater monitoring moves into the second phase, assessment monitoring. **Table 3-1** summarizes the Appendix III constituent BTVs established for Site CCR units.

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

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

3.1 PROGRAM STATUS

Based on available Appendix III concentrations and statistical analyses completed as of the end of the 2023 reporting period for the BAM, the unit is currently in the detection groundwater monitoring program. The FAP and BAP are in corrective action and continue to be monitored as part of the assessment groundwater monitoring program.

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

3.1.1 PROBLEMS ENCOUNTERED AND RESOLUTIONS TO PROBLEMS

Problems encountered during the reporting period and associated resolutions include:

- During the May 2023 monitoring event, Eurofins TestAmerica Laboratories, Inc. (Eurofins) was unable to meet the required reporting limit (RL) of less than (<) 1 mg/L for many of the fluoride analyses performed using United States Environmental Protection Agency (USEPA) drinking water Method 300.0. Although the laboratory had achieved the acceptable RLs in the past during the analysis of samples collected from wells in the Four Corners CCR monitoring program, the laboratory refused to analyze the samples collected during the May 2023 event without performing multiple dilutions due to elevated total

dissolved solids and sulfate concentrations in these samples which can adversely affect laboratory equipment. APS and WSP were notified that the fluoride RLS would be elevated, and it was requested that Eurofins report fluoride to the method detection limit (MDL) to achieve the lowest level of detection. The MDLs ranged from less than 2 to less than 80 mg/L and Eurofins was unable to re-analyze the samples without the dilutions. After the May 2023 monitoring event, project requirements were discussed with Eurofins and they agreed to target RLS based upon the previous level of dilutions achieved on a sample by sample basis. Additionally, Eurofins proposed USEPA solid waste Method 9056A as an alternative ion chromatography method to USEPA drinking water Method 300.0, that would allow for less sample dilution and lower reporting limits, more like those achieved in the past. In response, a small subset of samples was submitted to be analyzed for fluoride by Method 9056A during the November 2023 monitoring event to compare the methods. A split sampling analysis presenting the sampling methods, analytical results, and overall findings will be presented in a technical memorandum to be completed in 2024.

3.1.2 GROUNDWATER MONITORING PROGRAM TRANSITIONS

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

3.1.3 ALTERNATIVE SOURCE DEMONSTRATIONS

No Alternative Source Demonstrations (ASDs) or further updates to existing ASDs were performed during the reporting period.

3.2 MONITORING DATA COLLECTED

One resampling and two semi-annual CCR groundwater monitoring events were conducted at Cholla during the reporting period in accordance with the Site Sampling and Analysis Plan (SAP) (Wood, 2022b). The SAP documents the methods and procedures used to conduct groundwater sampling, analyze collected samples for CCR constituents, and assess associated analytical data for quality assurance purposes.

The resampling event took place in January 2023 as part of a 1 of 2 resampling strategy implemented at MW-60 following the identification of an initial exceedance for sulfate in October 2022 (further discussed in Section 3.3.1). The first semi-annual groundwater monitoring event took place in April through May 2023 and the second semi-annual monitoring event took place in October through November 2023. The following sections summarize results of the monitoring activities conducted in 2023. **Table 3-2** identifies when monitoring occurred, and which units were monitored. During the reporting period, detection monitoring included evaluation of collected samples for Appendix III constituents on a semi-annual basis (40 CFR §257.94[b]). At a minimum, assessment monitoring included evaluation of collected samples for all Appendix IV constituents on an annual basis (40 CFR §257.95[b]) and detected Appendix IV constituents and all Appendix III constituents on a semi-annual basis (40 CFR §257.95[d][1]).

Supplementary water samples collected during the reporting period included surface water samples collected from the BAP and FAP units.

3.2.1 WATER LEVEL MONITORING

Figure 3-1 presents a potentiometric surface map created using water-level measurements collected in April, during the April/May 2023 groundwater monitoring event. **Figure 3-2** presents a potentiometric surface map created using water-level measurements collected in October during the October/November groundwater monitoring event. Groundwater elevations collected from monitoring wells at each CCR unit are evaluated and plotted independently based on the CSM. The estimated flow directions inferred from the groundwater elevation data are depicted on the figures. As indicated, groundwater in the alluvium appears to flow south to southwest from the FAP and to the south through Tanner Wash from the BAP, towards the Little Colorado River, where

groundwater generally flows to the west (consistent with surface water flows). Groundwater in the C-aquifer underlying the BAM flows to the north.

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

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

FAP: A fairly steep hydraulic gradient exists at the outer edges of the FAP dam where no cutoff wall is present. The hydraulic gradient appears slightly steeper at the left abutment versus the right abutment. Farther downgradient, groundwater elevations in M-46A, MW-67A, and MW-63A indicate that the hydraulic gradient begins to flatten with increased distance from the FAP. Well W-127 was noted to be dry in April and October 2023 (the well is typically dry) and suggests a limited saturated thickness of the alluvial aquifer to the southwest of the FAP. Closer to the Little Colorado River, supplementary well M-49A has regularly been dry in recent years; however, a small amount of water (less than 0.4 ft and so insufficient for collecting a sample) was detected in the well during both 2023 semi-annual sampling events. The presence of water in M-49A may be attributed to a regional increase in alluvial aquifer levels associated with a decrease in Cholla production well pumping and a resultant upwelling of groundwater from the C-aquifer in areas where the Moqui is thin or not present.

BAP: Groundwater elevations at M-53A (located at the western abutment of the southern BAP dam) and W-314 (located downgradient of the eastern side of the BAP dam) are approximately 10 ft higher than groundwater elevations in wells located towards the central portion of the southern BAP dam (i.e. M-52A, W-305, and W-306), indicating a steep hydraulic gradient exists at the toe the BAP dam. CCR compliance well MW-76A, installed to delineate impacts downgradient of the BAP, was dry upon drilling and installation in May 2021 and is still noted to be dry during the 2023 semi-annual sampling events.

BAM: Groundwater elevations in the C-aquifer monitoring wells continue to exhibit seasonal fluctuations with the higher elevation measured in spring and indicate a slightly increasing trend over time.

3.2.2 GROUNDWATER FLOW RATE ESTIMATION

The CCR Rule requires that groundwater flow rates beneath CCR units be estimated during each monitoring event. The water levels measured in April and October 2023 (**Figures 3-1** and **3-2**) were used to calculate the direction and magnitude of the hydraulic gradient in the vicinity of each unit using a spreadsheet tool available on the United States Environmental Protection Agency (USEPA) website (USEPA, 2014). Darcy's Equation for flow through porous media was then used with Site data (where available) and/or literature-based hydraulic conductivity and effective porosity values for hydrogeologic units to estimate average linear groundwater flow velocities. The effective porosity value (0.26) is calculated from the specific yield ranges reported by Morris and Johnson for the alluvium-Moqui hydrostatic units (Morris and Johnson, 1967). **Table 3-3** identifies the wells, hydraulic conductivities, and porosities used in the analysis and presents the calculated groundwater flow directions, gradients, and flow velocities.

FAP: The hydraulic gradient and flow direction downgradient of the FAP in the alluvial aquifer were relatively stable (0.019 and 0.018 ft/ft for the April and October events, respectively). The direction of groundwater flow was to the southwest towards the Little Colorado River (240 and 236 degrees from north for April and October 2023, respectively). The corresponding groundwater flow rates for the monitoring events were 0.29 and 0.28 ft per day (ft/d) for April and October 2023, respectively.

BAP: The hydraulic gradient downgradient of the BAP in the Tanner Wash Alluvium was stable during the reporting period at 0.015 and 0.014 ft per ft (ft/ft) for the April and October events, respectively. The direction of groundwater flow from the BAP was south (188 degrees from north for each event) and the corresponding groundwater flow rates for the April and October events were 0.060 and 0.050 ft/d, respectively.

BAM: The hydraulic gradient and flow direction underlying the BAM in the C-Aquifer, were fairly stable during the reporting period. The magnitude of the hydraulic gradient for April and October was 0.0091 and 0.0090 ft/ft,

respectively. The direction of groundwater flow for April and October 2023 was to the north (360 to 359 degrees from north, respectively). The corresponding groundwater flow rate for April and October 2023 was 1.1 ft/d.

3.2.3 SAMPLE COLLECTION

Groundwater samples were collected, labeled, preserved, and shipped per the SAP (Wood, 2022b). In accordance with 40 CFR §257.93(i), which requires the measurement of total recoverable metals, groundwater samples collected for statistical analysis of Appendix III and IV constituents were not field filtered prior to analysis. Pursuant to the SAP, quality control samples (i.e., field duplicates, field blanks and extra sample volume for matrix spike samples) were collected during each groundwater monitoring event. The samples are noted on associated chain-of-custody documentation.

3.2.4 SAMPLE ANALYSIS AND DATA VALIDATION

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

Table 3-2 identifies the analytes evaluated during each monitoring event and field investigation. Analytes varied based on the monitoring program (i.e., detection vs. assessment monitoring) or field investigation. The SAP identifies Appendix III and Appendix IV constituents with associated analytical methods. As discussed in Section 3.1.1, a subset of samples was submitted for fluoride analysis by EPA Method 9056A during the November 2023 monitoring event.

Following receipt of final laboratory reports of analysis, the reports and associated sample data collected during detection and assessment monitoring were evaluated for quality assurance purposes. The scope of the review was a USEPA Stage 2A validation. **Appendix C** presents the *2023 Data Validation Report* which documents the reviews. One analytical result, the nitrate-nitrite result for FAP supplementary well W-126R in the April event, was deemed unusable in 2023 due to a low matrix spike recovery resulting in a biased low result. All data qualifiers and reason codes are included in the *2023 Data Validation Report (Appendix C)*.

3.2.5 SAMPLE RESULTS

Appendix D presents the groundwater sampling results for 2023 along with historical groundwater quality data for the Site. The groundwater quality data collected during the reporting period are discussed further in Section 4.2.

3.3 STATISTICAL ANALYSIS OF MONITORING DATA

Statistical analyses of Appendix III constituent data were conducted during the reporting period to evaluate whether collected monitoring data indicate Site CCR units have adversely impacted underlying groundwater. The analyses were conducted in accordance with the Statistical Data Analysis Work Plan (WSP, 2023d).

3.3.1 EVALUATION OF APPENDIX III CONSTITUENT DATA

The BAM was the only Site CCR unit that remained in the detection monitoring program as of the beginning of 2023 and required statistical evaluations of Appendix III constituent data during the reporting period.

A statistical analysis of Appendix III constituent data collected at the BAM through January 2023 was completed in April 2023 (**Appendix E**). An initial exceedance of sulfate in October 2022 was detected at CCR well MW-60. In

accordance with the Statistical Data Analysis Work Plan (SDAWP) developed for the Site (WSP, 2023d), APS implemented a 1 of 2 resampling strategy and resampling was conducted in January 2023 to address the exceedance. The resampling detection result for sulfate in January 2023 was detected at the associated BTV, and therefore the initial exceedance was determined statistically insignificant. The statistical analysis indicated no SSIs over Appendix III constituent BTVs.

A statistical analysis of Appendix III constituent data collected at the BAM through April 2023 was completed in October 2023 (**Appendix F**). The statistical analysis indicated no Appendix III constituents were detected at concentrations exceeding their respective BTVs during the April 2023 groundwater sampling event and there are currently no SSIs over Appendix III constituent BTVs.

As of the end of the 2023 reporting period APS continues detection monitoring at the BAM in accordance with 40 CFR §257.95(f).

3.3.2 EVALUATION OF APPENDIX IV CONSTITUENT DATA

No statistical evaluations of Appendix IV constituent data were conducted during the reporting period.

4 CORRECTIVE ACTION PROGRAM

4.1 PROGRAM STATUS

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

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

4.2 CHARACTERIZATION OF POTENTIAL RELEASES FROM CCR UNITS

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

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

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

Findings from the characterization activities are summarized as follows:

- Contaminants of concern (COCs) present at concentrations above respective GWPSs in groundwater downgradient of the FAP include arsenic, fluoride, lithium, and molybdenum. The inferred extent of each constituent is depicted on **Figures 4-1, 4-2, 4-3, and 4-4** respectively. Arsenic, fluoride, lithium, and molybdenum all exceed the respective GWPSs in groundwater beneath downgradient off-site property and are defined by wells on APS property south of the FAP (MW-46A, MW-50A, MW-65A, MW-66A, and MW-67A). Surface water samples taken in October 2023 indicate that in addition to the four groundwater COCs (arsenic, fluoride, lithium, and molybdenum), pond water in the FAP also exhibits antimony, beryllium, cobalt, selenium, thallium, and total radium at concentrations exceeding GWPSs (as shown in **Appendix D**).
- Cobalt is present at concentrations above the GWPS in groundwater downgradient of the BAP, and is the only COC for the BAP. The inferred extent of cobalt is depicted on **Figure 4-5**. Cobalt currently exceeds the GWPS in offsite groundwater south and east of the BAP. The cobalt plume is delineated to the southern downgradient direction by MW-77A and MW-78A, and to the east by MW-74M. Samples collected in both April and October/November 2023 indicate the cobalt concentration in pond water of the BAP is below the GWPS and concentrations observed in groundwater (as shown in **Appendix D**), indicating the formation may be a natural source of cobalt to groundwater.

4.3 INTERIM RESPONSE MEASURES

While remedy selection progressed during the reporting period (Section 4.4), APS implemented several response measures at the FAP and the BAP to limit groundwater impacts. Data collected through the interim response measures are also used to inform an assessment of the effectiveness of potential remedial technologies. The interim response measures implemented during the reporting period are outlined in the *Risk Mitigation Plan* (Wood, 2020c) and summarized below.

- **Improvements to Seepage Intercept Collection Systems at the FAP** – The FAP Seepage Intercept Collection Systems were upgraded in 2022 and 2023 to allow the systems to capture seepage more effectively from the FAP before it discharges to groundwater. The FAP Seepage Intercept Collection System is comprised of the Hunt Seepage Collection System and the Geronimo Seepage Collection System which includes four extraction wells (EW-01 through EW-04) installed downgradient of the FAP in December 2020 (Wood, 2021c) and well GSX-1R installed in May 2021 (Wood, 2022a). System upgrades included: installing pump elapsed time meters; upgrading, replacing and increasing the number of flow meters on the system; plumbing the new wells with piping; installing pumps; and upgrading piping, electrical and instrument controls. Substantial completion of the project occurred from August through December 2022, and preliminary start-up of the upgraded system began at that time. All construction activities were completed, and the system was commissioned in January 2023. Record drawings and construction reporting were completed in 2023 and are included in **Appendix G**.
- **Improvements to Seepage Intercept Collection Systems at the BAP** – Improvements to the BAP Seepage Intercept Collection Systems to increase seepage capture were designed and procured in 2023. The current BAP Seepage Intercept Collection Systems include: wells TDX-3 through TDX-5 (identified as BSX-01 through BSX-03 in previous reporting documentation) installed in May 2021; seepage intercept trenches located at the Toe Drain System, Petroglyph Seep, and Tanner Wash sumps; and extraction wells located at the B-226/TWX area. Planned 2024 improvements include: installing pump elapsed time meters; upgrading, replacing and increasing the number of flow meters on the system; plumbing TDX-03 through TDX-05 and installing pumps; upgrading piping, electrical, and instrument controls; and installing a holding tank for connection to a future evaporation pond system south of the FAP (currently under construction).
- **Operation of FAP and BAP Seepage Intercept Collection Systems and Mass Removal Estimates** – The existing seepage intercept collection systems at the FAP and the BAP were maintained and operated throughout 2023. An estimated total mass removed of all Appendix IV constituents (minus radionuclides) was calculated for the operating systems for the past year. The estimated contaminant mass removed from discharges to groundwater by the systems in 2023 is based on the totalized annual flow extracted and average constituent concentrations measured at each system. There is currently flow metering equipment available to estimate flow rates at the BAP seepage collection systems (i.e., the Toe Drain System, Petroglyph Seep, Tanner Wash Seep and the TWX area wells) and at the FAP seepage collection systems (i.e., Geronimo and Hunt). Inconsistent totalizer readings at the TWX area wells prevented accurate annual flow estimations at these locations, and thus, total volume and mass removal at the BAP were calculated using data only from the Toe Drain, Petroglyph, and Tanner Wash Seepage Collection Systems. Additionally, the April/May 2023 fluoride concentrations measured at the BAP and FAP wells were not used in performing the fluoride mass calculation due to laboratory issues that resulted in elevated laboratory detection limits greater than the GWPS (see Section 3.1.1). Only the fluoride concentrations from the October 2023 sampling event were used for the mass removal calculation for fluoride. **Tables 4-1**, and **4-2** show the results of that calculation. The estimated combined total mass of Appendix IV constituents (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, and thallium) removed at the BAP and FAP was 5,643.7 pounds (lbs) and 358.9 lbs, respectively. A combined total of 6,002.5 lbs of Appendix IV constituents was removed in 2023. Fluoride represented 98% of the removed Appendix IV constituent mass during the year.

4.4 PROGRESS ON REMEDY SELECTION FOR THE FAP AND BAP

In response to GWPS exceedances at the FAP and the BAP and pursuant to 40 CFR §257.96(a), an Assessment of Corrective Measures (ACM) was prepared in 2019 (Wood, 2019b) to evaluate the performance of several combined corrective measures to address groundwater impacts resulting from the FAP and the BAP. Since completing the ACM, several evaluations and pre-design studies to support the selection and design of remedies for the FAP and the BAP have been conducted (Wood, 2020a and Wood, 2021b, WSP, 2023b, and **Appendix H**). This section presents an update on the status of these studies and progress on remedy selection.

4.4.1 CORRECTIVE MEASURES PRE-DESIGN STUDIES

The following are summaries of the evaluations and pre-design studies completed during the 2023 reporting period:

W-307R and M-52A Aquifer Testing Technical Memorandum - During the 2023 reporting period, aquifer testing was performed at W-307R and M-52A to address recommendations presented in the *Well Completion Report Bottom Ash Pond Pre-Design Studies* (WSP, 2023b). A technical memorandum was produced during the 2023 reporting period which documented the aquifer testing performed at W-307R and M-52A in June 2023 and the results of the analysis performed of the collected data acquired from both tests. The *W-307R and M-52A Aquifer Testing Technical Memorandum* is included as **Appendix H**.

Groundwater Model Update - The work to update to the existing numerical groundwater model for the Site to assist in the evaluation and selection of remedies for the FAP and BAP has begun but was not completed during the 2023 reporting period; The work is projected to be completed in 2024 as presented in Section 5.

Additional corrective measures pre-design studies planned for 2024 are discussed in Section 5.

4.4.2 REMEDY SELECTION REPORTS FOR THE FAP AND BAP

During the reporting period, APS further progressed selection of remedies for the FAP and the BAP that meet the requirements of 40 CFR §257.97(b) while considering the evaluation factors of 40 CFR § 257.97(c). Preparation of a remedy selection report began in 2023 and is planned to be completed in 2024.

4.5 IMPLEMENTATION OF RISK MITIGATION PLAN SUPPORTING ALTERNATIVE CLOSURE

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

During the reporting period, weekly inspections of the FAP and BAP seepage collection systems were performed by APS personnel. At the time of the inspections, the area around the collection systems were also inspected for the presence of new seepage. During the annual dam inspections that occurred on November 13-14, 2023, the entire perimeter of the base of the FAP and BAP dams was inspected for indications of both new and previously observed seepage. No new seepage was identified. Weekly and annual inspections will continue in 2024.

Quarterly reviews of the online ADWR Wells 55 database were also completed to assess if groundwater production wells were installed in impacted aquifers downgradient of the FAP or the BAP. For the reporting period, ADWR Wells 55 database reviews occurred on January 5, May 16, August 18, and October 9. The quarterly reviews are

documented in **Appendix J**. No new well owner coordination was required during the reporting period. Quarterly reviews of the ADWR Wells 55 database will continue in 2024.

4.6 SEMI-ANNUAL PROGRESS REPORT ON REMEDY SELECTION FOR THE FAP AND BAP

40 CFR §257.97(a) requires the preparation of semi-annual reports which document the progress of remedy selection for CCR units that have potentially impacted groundwater until the remedy is selected. Accordingly, a semi-annual report was prepared on July 15, 2023 which describes the progress of remedy selection for the FAP and the BAP and is presented as **Appendix I**.

The Annual GMCAR for 2023 fulfills the requirements of 40 CFR §257.97(a) for a subsequent semi-annual progress report by providing updates on remedy selection (Section 4) and future planned activities (Section 5) for the FAP and BAP.

4.7 CCR UNIT CLOSURE ACTIVITIES

A demonstration supporting a Site-specific deadline to initiate closure per 40 CFR §257.103(f)(2) was submitted by APS to the USEPA on November 30, 2020. The USEPA assessed the submittal as complete on January 11, 2022, but had not made a determination regarding the demonstration as of December 31, 2023. APS placed an *Annual Progress Report Documenting the Continued Lack of Alternative Capacity and Progress Towards Closure of the FAP and BAP* (Annual Progress Report) (**Appendix K**) in the facility operating record on November 30, 2023. During the reporting period APS progressed CCR unit closure activities as outlined in the following sections.

4.7.1 BAP CLOSURE

During the reporting period, APS elected to modify the closure strategy for the BAP from closure in place to closure by removal. CCR will be excavated from the BAP and will be placed in the BAM. A conceptual design for closure of the BAP by removal is currently being developed and will be incorporated into an updated closure plan as soon as feasible.

4.7.2 FAP CLOSURE

The closure plan for the FAP (AECOM, 2020) states that the unit will be closed in place and capped with an evapotranspiration cover. Dewatering of the unit must occur prior to capping to safely construct the final cover system. During the reporting period, work was progressed to evaluate dewatering strategies so that the closure plan can be updated to address how dewatering will be accomplished. Closure activities highlighted in the Annual Progress Report (**Appendix K**) include:

- Minimization of discharges to the FAP with ongoing water level monitoring. The level of the FAP declined by 2.9 feet between December 2022 and November 2023.
- Relocation of bottom ash from the BAM and stockpiling at the FAP for future use of bridge lift material. The relocation began in July 2023 and will continue through most of 2024.
- Assessment of RWI Pittboss mechanical enhanced evaporator operation. The evaporators began operating in the FAP in August 2022 but were taken offline in March 2023 due to the buildup of salts on rigging equipment and the units capsizing. The units were updated with a new anchoring system and re-deployed in June 2023.
- Geotechnical investigations were conducted to assess the surface of the FAP for stability. Investigations included the construction and testing of access roads from various materials and evaluation of nearby soils for use as capping material. The investigations aided in the design engineering and analysis of three different

options for addressing stormwater run-on and capping approaches. An evapotranspiration capping strategy was retained as the preferred method for capping the FAP.

- Preliminary assessment of engineering control measures to remove drainable porewater within the waste sluiced to the FAP began in 2022 and continued through 2023. The work included the installation and operation of multiple dewatering test wells in the FAP. The results of testing will assist in refining the FAP closure plan and will be updated to demonstrate closure performance requirements.

5 KEY ACTIVITIES FOR 2024

During 2024, the following key activities are anticipated to be conducted to support CCR groundwater monitoring and corrective action compliance at the Site:

- *Preparation of an Annual Groundwater Monitoring and Corrective Action Report for 2024* – Per 40 CFR §257.90(e), an annual report documenting groundwater monitoring and corrective action activities in 2024 will be prepared no later than January 31, 2025.
- *Continued Detection Monitoring at the BAM with Ongoing Statistical Evaluation for SSIs Over Background* – Per 40 CFR §257.94(b), detection monitoring (including analysis of collected samples for Appendix III constituents) will continue on a semi-annual basis. On an ongoing basis, it will be determined whether there has been an SSI over background at the CCR units undergoing detection monitoring within 90 days of sampling and analysis (40 CFR §257.93[h][2]).
- *Initiation of Assessment Monitoring for CCR Units with an SSI over Background (as applicable)* – Per 40 CFR §257.94(e)(1), within 90 days of detecting an SSI over background levels for any Appendix III constituent, an assessment monitoring program must be established.
- *Continued Assessment Monitoring at the BAP and FAP* – While corrective action evaluation progresses at the BAP and FAP, assessment monitoring (including analysis of collected samples for Appendix III and Appendix IV constituents) must be conducted on a semi-annual basis per 40 CFR §257.95(b) and (d)(1).
- *Method 9056A Sample Analysis Technical Memorandum* – A technical memorandum will be prepared in 2024 that compares the results of the analysis of select groundwater samples for fluoride by USEPA Method 9056A and USEPA Method 300.0 during the November 2023 sampling event.
- *Updates to the Numerical Groundwater Model* – The existing numerical groundwater model for the Site used to assist the evaluation and selection of remedies for the FAP and BAP was updated in 2023, and the findings will be presented in 2024.
- *Interim Response Measures at the FAP and BAP* – In tandem with additional field investigations, the interim response measures outlined in Section 4.44.3 will continue to limit the groundwater impacts from the FAP and BAP while remedies are being evaluated and selected.
- *Interim Remedial Response Evaluation* – APS has continued to progress planning and evaluation for additions to the groundwater monitoring network and interim corrective measures including in-situ testing of amendments in the groundwater and additional extraction wells.
- *Performance Monitoring of Active Systems* – Average flow rates will continue to be monitored for each active seepage extraction system at the FAP and BAP. Additionally, total removed mass of Appendix IV constituents (minus radionuclides) will be calculated for the active seepage extraction systems at the FAP and BAP during the 2024 reporting year.
- *Remedy Selection* – APS will select remedies for the FAP and the BAP that meet the requirements of 40 CFR §257.97(b). Additionally, a remedy selection report will be prepared per 40 CFR §257.97(a).
- *Initiation of Remedial Activities* – Per 40 CFR §257.91(f), APS will begin remedial activities at the FAP and the BAP within 90 days of selecting a remedy for each unit.

Since the nature of corrective actions is implemented in phases based on analysis of data collected during the groundwater monitoring program, the foregoing list only includes reasonably probable activities that will occur in 2024; the list is not comprehensive.

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TABLES



Description of Coal Combustion Residual Units

CCR Unit/ CCR Status	Function	Operation	Size/Construction	History
Fly Ash Pond (FAP) <i>Active</i>	<i>Single CCR unit</i> - surface impoundment to store slurried fly ash from the plant.	Historically received a slurry from the plant that contained primarily fly ash but also some bottom ash, boiler slag, flue gas emission control residuals, boiler cleaning waste, oil/water separator solids, and storm water. Historically receives solids from the SEDI.	- 430 acres in aerial extent. - Total storage capacity of about 18,000 acre-feet. - Normal operating elevation of 5,083 ft amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and a thin veneer of alluvial sediments. - The dam is constructed of earth fill with a central clay core that extends to bedrock where bedrock is shallow. In the central portion of the dam, where bedrock is deeper, a slurry cutoff wall extends one foot into bedrock or two feet into stiff clay.
Bottom Ash Pond (BAP) <i>Active</i>	<i>Single CCR unit</i> - surface impoundment to store slurried bottom ash from the plant.	Bottom ash is pumped to the BAP as a slurry. The bottom ash settles in the east and west upstream storage cells and the water is decanted to the reservoir and ultimately siphoned back to the plant for reuse. Slurry may also contain fly ash, boiler slag, flue gas emission control residuals, sedimentation pond effluent, cooling tower blowdown, oil/water separator effluent and solids, boiler cleaning waste, and storm water. Historically received solids from the SEDI.	- 105 acres in aerial extent. - Total storage capacity of 2,300 acre-feet. - Normal operating pool elevation of 5,114 feet amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and Tanner Wash alluvium. - Consists of a reservoir directly behind the dam and two storage cells upstream of the reservoir. - The dam is constructed of earth fill with a central clay core that extends to bedrock where bedrock is shallow. In the central portion of the dam, where bedrock is deeper, a slurry cutoff wall extends one foot into bedrock or two feet into stiff clay.
Bottom Ash Monofill (BAM) <i>Active</i>	<i>Single CCR unit</i> - landfill for bottom ash solids excavated from the BAP.	Bottom ash that has been drained of water is excavated from the BAP and permanently stored in the BAM.	- 41 acres in aerial extent.	- Placed into service in 1999.
Sedimentation Pond (SEDI) <i>Closure Complete</i>	<i>Single CCR unit</i> - collected water from drains around plant site, including storm water, process water, plant water, and slurry from plant leaks.	Collected discharge from on-site secondary wastewater treatment plant, effluent from the oil/water separator, vehicle wash water, plant wash water, and FGD wastes from scrubber or scrubber feed tank upsets. Water collected in the SEDI was pumped to Cholla's general water sump for recycling as process water.	- 1.3 acres in aerial extent. - Total storage capacity of 10.5 acre-feet. - Maximum pond depth of 10 feet. - the top of the pond side slope was at 5,019 feet amsl	- Placed into service in 1976. - Lined with a 2-foot-thick layer of compacted clay. - Constructed below grade. - Discharges to the SEDI ceased as of October 2020. - Demolition and excavation of SEDI complete as of October 2021. - Closure complete October 2022.

Source:

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

Abbreviations:

amsl - above mean sea level

BAP - Bottom Ash Pond

BAM - Bottom Ash Monofill

CCR - Coal combustion residuals

FAP - Fly Ash Pond

FGD - flue gas deulfurization

SEDI - Sedimentation Pond

Table 1-2
CCR Groundwater Monitoring Network Summary

Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
M-54	55-918646	Yes	BAM	Background	Coconino Sandstone	10/2/2015	370	5070.71	5068.21	315	365	50	4,753.21	4,703.21	4,698.21
M-59	55-918647	Yes	BAM	Downgradient Boundary	Coconino Sandstone	10/21/2015	425	5136.00	5133.86	373	423	50	4,760.86	4,710.86	4,708.86
M-60	55-918649	Yes	BAM	Downgradient Boundary	Coconino Sandstone	11/1/2015	450	5151.18	5148.69	395	445	50	4,753.69	4,703.69	4,698.69
M-61	55-918648	Yes	BAM	Downgradient Boundary	Coconino Sandstone	11/13/2015	420	5127.58	5124.95	365	415	50	4,759.95	4,709.95	4,704.95
TDX-3'	55-926097	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/4/2021	55	5045.93	5044.41	10	50	40	5,034.41	4,994.41	4,989.41
TDX-4'	55-926099	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/12/2021	130	5049.62	5048.26	104	124	20	4,944.26	4,924.26	4,918.26
TDX-5'	55-926100	No	BAP	Extraction (Inactive)	Tanner Wash Alluvium	5/3/2021	84	5051.13	5049.6	36	76	40	5,013.60	4,973.60	4,965.60
BSX-04	55-926240	No	BAP	Supplementary	Tanner Wash Alluvium	5/15/2021	51	5056.18	5054.63	22	42	20	5,032.63	5,012.63	5,003.63
BSX-05	55-926102	No	BAP	Supplementary	Tanner Wash Alluvium	5/15/2021	29	5056.37	5054.84	10	20	10	5,044.84	5,034.84	5,025.84
M-47A	55-913984	No	BAP	Supplementary	LCR Alluvium	1/20/2012	184	5020.34	5021.45	30.5	60	29.5	4,990.95	4,961.45	4,837.45
M-52A	55-918657	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium/Moenkopi - Moqui Member	9/22/2015	83	5049.36	5047.08	20	70	50	5,027.08	4,977.08	4,964.08
M-53A	55-918651	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/22/2015	38	5044.68	5042.09	10	35	25	5,032.09	5,007.09	5,004.09
M-55A	55-918701	No	BAP	Supplementary	Tanner Wash Alluvium	10/30/2015	60	5062.82	5060.06	20	55	35	5,040.06	5,005.06	5,000.06
MW-69A	55-923618	No	BAP	Supplementary	Tanner Wash Alluvium	11/20/2019	27	5050.741	5049.25	16.6	26.6	10	5,032.65	5,022.65	5,022.25
MW-70M	55-923582	No	BAP	Supplementary	Moenkopi - Moqui Member	11/22/2019	77.5	5051.119	5049.80	45.6	75.6	30	5,004.20	4,974.20	4,972.30
MW-71A	55-926812	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/28/2021	30	5050.680	5050.15	15.0	25.0	10	5,035.15	5,025.15	5,020.15
MW-72M	55-926814	Yes	BAP	Downgradient Boundary	Moenkopi - Moqui Member	9/19/2021	125	5049.670	5050.54	59.0	69.0	10	4,991.54	4,981.54	4,925.54
MW-73A	55-926813	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	9/23/2021	26	5049.190	5049.66	11.0	21.0	10	5,038.66	5,028.66	5,023.66
MW-74M	55-926815	Yes	BAP	Downgradient Boundary	Moenkopi - Moqui Member	9/23/2021	125	5049.070	5049.74	45.0	65.0	20	5,004.74	4,984.74	4,924.74
MW-76A	55-926103	Yes	BAP	Downgradient	Tanner Wash Alluvium	5/1/2021	52	5033.890	5032.24	16.0	26.0	10	5,016.24	5,006.24	4,980.24
MW-77A	55-926104	Yes	BAP	Downgradient	Tanner Wash Alluvium/Moenkopi - Moqui Member	4/30/2021	65	5031.020	5029.78	44.0	64.0	20	4,985.78	4,965.78	4,964.78
MW-78A	55-926105	Yes	BAP	Downgradient	Tanner Wash Alluvium	5/4/2021	107	5036.950	5035.05	66.0	96.0	30	4,969.05	4,939.05	4,928.05
MW-79A	55-926106	Yes	BAP	Downgradient	Tanner Wash Alluvium	5/17/2021	177	5040.890	5038.24	135.0	165.0	30	4,903.24	4,873.24	4,861.24
W-227	55-506586	No	BAP	Supplementary	Moenkopi - Wupatki Member	11/2/1983	58	5122.820	5120.32	38	55	17	5,082.32	5,065.32	5,062.32
W-301	55-506372	No	BAP	Supplementary	Tanner Wash Alluvium	10/4/1983	62	5033.68	5031.18	40	60	20	4,991.18	4,971.18	4,969.18
W-302	55-506271	No	BAP	Supplementary	Tanner Wash Alluvium	11/1/1983	44	5036.42	5033.90	27	42	15	5,006.90	4,991.90	4,989.90
W-303	55-506369	No	BAP	Supplementary	Moenkopi - Moqui Member	10/26/1983	32	5039.70	5037.20	20	30	10	5,017.20	5,007.20	5,005.20
W-304	55-506370	No	BAP	Supplementary	Tanner Wash Alluvium	10/26/1983	56	5038.60	5036.10	35	54	19	5,001.10	4,982.10	4,980.10
W-305	55-906364	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	10/7/1983	102	5046.80	5044.65	80	100	20	4,964.65	4,944.65	4,942.65
W-306	55-506365	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	10/11/1983	52	5046.74	5044.78	30	50	20	5,014.78	4,994.78	4,992.78
W-307	55-506366	No	BAP	Supplementary	Tanner Wash Alluvium	10/21/1983	62	5045.22	5042.70	40	60	20	5,002.70	4,982.70	4,980.70
W-307R	55-926816	No	BAP	Supplementary	Tanner Wash Alluvium	10/4/2021	67	5048.33	5045.10	35	65	30	5,010.10	4,980.10	4,978.10
W-308	55-506368	No	BAP	Supplementary	Tanner Wash Alluvium	10/19/1983	72	5051.54	5049.00	50	70	20	4,999.00	4,979.00	4,977.00
W-309	55-506367	No	BAP	Supplementary	Tanner Wash Alluvium	10/14/1983	81	5062.01	5059.50	64	79	15	4,995.50	4,980.50	4,978.50

Table 1-2
CCR Groundwater Monitoring Network Summary

Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
W-310	55-506367	No	BAP	Supplementary	Moenkopi - Wupatki Member	12/19/1992	240	5050.61	5048.60	218	238	20	4,830.60	4,810.60	4,808.60
W-311	55-533813	No	BAP	Supplementary	Coconino Sandstone	12/14/1991	281	5050.03	5047.7	259	279	20	4,788.70	4,768.70	4,766.70
W-312	55-533811	No	BAP	Supplementary	Moenkopi - Wupatki Member	1/22/1992	259	5052.01	5049.3	238	258	20	4,811.30	4,791.30	4,790.30
W-313	55-533814	No	BAP	Supplementary	Coconino Sandstone	1/27/1992	293	5051.32	5049.1	272	292	20	4,777.10	4,757.10	4,756.10
W-314	55-533814	Yes	BAP	Downgradient Boundary	Tanner Wash Alluvium	1/27/1992	63	5051.10	5051.32	41	61	20	5,010.32	4,990.32	4,988.32
W-317	55-913770	No	BAP	Supplementary	LCR Alluvium	11/10/2011	122.5	5022.27	5023.09	28.8	58.8	30	4,994.29	4,964.29	4,900.59
DM-04R	55-910008	No	FAP	Supplementary	LCR Alluvium	11/22/2008	90	5018.43	5015.77	35	65	30	4,980.77	4,950.77	4,925.77
EW-01	55-925217	No	FAP	Extraction	LCR Alluvium	12/10/2020	55.0	5037.36	5035.09	20.0	50.0	30	5,015.09	4,985.09	4,980.09
EW-02	55-925218	No	FAP	Extraction	LCR Alluvium	12/11/2020	52.0	5036.64	5034.01	17.0	47.0	30	5,017.01	4,987.01	4,982.01
EW-03	55-925215	No	FAP	Extraction	LCR Alluvium	12/12/2020	53.0	5037.71	5035.2	18.0	48.0	30	5,017.20	4,987.20	4,982.20
EW-04	55-925216	No	FAP	Extraction	LCR Alluvium	12/10/2020	24.0	5039.93	5037.18	9.0	19.0	10	5,028.18	5,018.18	5,013.18
GSX-1R	55-926115	No	FAP	Extraction	LCR Alluvium	5/16/2021	54	5037.97	5036.1	29	49	20	5,007.10	4,987.10	4,982.10
M-43A	55-910013	No	FAP	Supplementary	LCR Alluvium	11/21/2008	80	5022.56	5019.87	40	70	30	4,979.87	4,949.87	4,939.87
M-44D	55-909987	No	FAP	Supplementary	Coconino Sandstone	11/13/2008	385	5143.52	5140.94	320	380	60	4,820.94	4,760.94	4,755.94
M-44S	55-909988	No	FAP	Supplementary	Moenkopi - Wupatki Member	11/13/2008	290	5145.63	5143.01	250	280	30	4,893.01	4,863.01	4,853.01
M-45A	55-913769	No	FAP	Supplementary	LCR Alluvium	11/12/2011	68	5025.57	5023.57	31	60	29.7	4,993.07	4,963.37	4,955.57
M-46A	55-913771	No	FAP	Supplementary	LCR Alluvium	11/14/2011	40	5025.36	5023.36	22	34	12	5,001.36	4,989.36	4,983.36
M-49A	55-918639	No	FAP	Supplementary	LCR Alluvium	9/17/2015	35	5024.70	5022.70	10	20	10	5,012.70	5,002.70	4,987.70
M-50A	55-918641	Yes	FAP	Downgradient Boundary	LCR Alluvium	9/18/2015	32	5038.18	5035.65	9	29	20	5,026.65	5,006.65	5,003.65
M-51A	55-918640	Yes	FAP	Downgradient Boundary	LCR Alluvium	9/19/2015	14	5041.77	5039.10	7	12	5	5,032.10	5,027.10	5,025.10
M-63A	55-918638	No	FAP	Supplementary	LCR Alluvium	9/25/2015	57	5021.82	5018.9	25	55	30	4,993.90	4,963.90	4,961.90
MW-65A	55-922299	Yes	FAP	Downgradient	LCR Alluvium	11/15/2018	25	5027.86	5026.21	9	19	10	5,017.31	5,007.31	5,001.21
MW-66A	55-922300	Yes	FAP	Downgradient	LCR Alluvium	11/14/2018	60	5033.35	5032.46	24	49	25.1	5,008.86	4,983.76	4,972.46
MW-67A	55-922301	Yes	FAP	Downgradient	LCR Alluvium	11/16/2018	50	5025.38	5024.05	15	45	30.1	5,009.45	4,979.35	4,974.05
MW-68M	55-923346	No	FAP	Supplementary	Moenkopi - Moqui Member	9/16/2019	50	5026.95	5026.45	30	50	20.1	4,996.71	4,976.61	4,976.10
W-123	55-506587	Yes	FAP	Downgradient Boundary	Moenkopi - Moqui Member	11/4/1983	40	5039.838	5038.136	14	29	15	5,024.14	5,009.14	4,998.14
W-123R	55-926116	Yes	FAP	Downgradient Boundary	LCR Alluvium	5/12/2021	67	5041.06	5038.83	35	65	30	5,003.83	4,973.83	4,971.83
W-124	55-533820	No	FAP	Supplementary	Moenkopi - Wupatki Member	2/14/1992	96	5037.53	5036.00	76	96	20	4,960.00	4,940.00	4,940.00
W-125	55-533817	No	FAP	Supplementary	Coconino Sandstone	2/13/1992	141	5038.37	5036.00	120	140	20	4,916.00	4,896.00	4,895.00
W-126	55-553268	No	FAP	Supplementary	Moenkopi - Moqui Member	12/1/1995	50	5034.75	5032.75	15	45	30	5,017.75	4,987.75	4,982.75
W-126R	55-926120	No	FAP	Supplementary	LCR Alluvium	05/03/2021	27	5031.71	5030.19	9	19	10	5,021.19	5,011.19	5,003.19
W-127	55-560489	No	FAP	Supplementary	LCR Alluvium	2/11/1997	33.3	5030.04	5025.18	15	30	15	5,010.18	4,995.18	4,991.88
M-64A	55-920353	Yes	FAP/BAP	Background	LCR Alluvium	2/9/2017	69	4991.90	4988.90	30	60	30	4,958.90	4,928.90	4,919.90
CR-1 ³	55-926108	No	--	Supplementary	LCR Alluvium	9/24/1993	45	5010.20	5006.15	25	45	20	4,981.15	4,961.15	4,961.15

Table 1-2
CCR Groundwater Monitoring Network Summary

Well	ADWR Well Index Number	CCR Compliance Well	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
CR-1R ³	55-926108	No	--	Supplementary	LCR Alluvium	4/28/2021	67	5010.02	5007.9	28	48	20	4,979.90	4,959.90	4,940.90
M-48A ³	55-913983	No	--	Supplementary	LCR Alluvium	1/22/2012	145	5020.37	5018.37 ²	30.5	59.5	29	4,987.87	4,958.87	4,873.37
M-56A ³	55-918661	No	--	Supplementary	LCR Alluvium	10/7/2015	100	5023.17	5020.63	40	85	45	4,980.63	4,935.63	4,920.63
M-57A ³	55-918660	No	--	Supplementary	LCR Alluvium	10/8/2015	100	5023.82	5021.16	40	85	45	4,981.16	4,936.16	4,921.16
M-58A ³	55-918659	No	--	Supplementary	LCR Alluvium	10/13/2015	100	5023.84	5021.24	39	84	45	4,982.24	4,937.24	4,921.24
M-62A ³	55-918658	No	--	Supplementary	LCR Alluvium	11/17/2015	97	5020.87	5021.01	39	84	45	4,982.01	4,937.01	4,924.01

Source:
 AMEC Earth & Infrastructure, Inc., 2012. *Well Completion Report, Installation of Aquifer Protection Permit Monitor Wells, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona*. AMEC Job No. 17-2011-4054. May 7, 2012.
 Montgomery & Associates, 2017. *Cholla Power Plant Coal Combustion Residuals Program-Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks*. Navajo County, Arizona. September 19, 2017.
 Wood Environment & Infrastructure Solutions, Inc. *Surveying, 2018 and 2019*.
 Martin Land Surveys, Inc., 2020 and 2021.

Notes and Abbreviations:

ADWR - Arizona Department of Water Resources
 AMSL - Above mean sea level (Vertical datum is NAVD 88)
 BAM - Bottom Ash Monofill
 BAP - Bottom Ash Pond
 bgs - below ground surface

CCR - Coal combustion residuals
 FAP - Fly Ash Pond
 ft - feet
 LCR - Little Colorado River

N/A - not applicable

¹ In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03
² Approximate - elevation based on measured stickups
³ Well was formerly monitored for the SEDI CCR unit which was closed by removal in October 2022
 Wells in gray text were abandoned

Well Designation Descriptions:

Background - Monitoring location used to determine background groundwater quality that has not been affected by the CCR unit under investigation (40 CFR §257.91)
 Downgradient - Monitoring location used to evaluate the nature and extent of groundwater conditions associated with each CCR unit
 Downgradient Boundary - Monitoring location used to assess the groundwater conditions at the boundary of each CCR unit
 Extraction - Well location that currently supports the hydraulic containment system with the extraction of groundwater located downgradient of a CCR unit
 Extraction (Inactive) - Well location installed to assist with the extraction of groundwater that does not actively support the current hydraulic containment system
 Supplementary - Monitoring location intended to further support interpretations of both immediate CCR Unit-area conditions and Site-wide conditions

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

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

Notes and Abbreviations:

¹Units are standard units

²Units are picocuries per liter

BAM - Bottom Ash Monofill

BAP - Bottom Ash Pond

BTV - Background Threshold Value

FAP - Fly Ash Pond

GWPS - Groundwater Protection Standard

mg/L - milligrams per liter

N/A - not applicable

SEDI - Sedimentation Pond

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

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

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

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

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

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

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

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

Table 3-2
Monitoring Event Summary for 2023

CCR Unit	Monitoring Location	CCR Compliance Well	Monitoring Point Designation	Number of Field Original Samples Collected in 2023 ^(a)					Number of Field Original Samples Collected in 2023 ^(a)
				January 26, 2023 (Detection Resampling)	April 12 - 13, 2023 (Detection Sampling)	April 12 - 26 and May 10, 2023 (Assessment Sampling)	November 20 - 21, 2023 (Detection Sampling)	October 11 - 24, and November 21, 2023 (Assessment Sampling)	
BAP	TDX-3 ^(b)	No	Extraction (Inactive)	---	---	---	---	---	0
	TDX-4 ^(b)	No	Extraction (Inactive)	---	---	---	---	---	0
	TDX-5 ^(b)	No	Extraction (Inactive)	---	---	---	---	---	0
	BSX-04	No	Supplementary Well	---	---	---	---	---	0
	BSX-05	No	Supplementary Well	---	---	---	---	---	0
	M-52A	Yes	Downgradient Boundary	---	---	X	---	X	2
	M-53A	Yes	Downgradient Boundary	---	---	X	---	X	2
	M-55A	No	Supplementary Well	---	---	X	---	X	2
	M-64A ^(c)	Yes	Background	---	---	X	---	X	2
	MW-69A	No	Supplementary Well	---	---	X	---	X	2
	MW-70M	No	Supplementary Well	---	---	X	---	X	2
	MW-71A	Yes	Downgradient Boundary	---	---	X	---	X	2
	MW-72M	Yes	Downgradient Boundary	---	---	X	---	X	2
	MW-73A	Yes	Downgradient Boundary	---	---	X	---	X	2
	MW-74M	Yes	Downgradient Boundary	---	---	X	---	X	2
	MW-76A	Yes	Downgradient	---	---	NS ²	---	NS ²	0
	MW-77A	Yes	Downgradient	---	---	X	---	X	2
	MW-78A	Yes	Downgradient	---	---	X	---	X	2
	MW-79A	Yes	Downgradient	---	---	X	---	X	2
	W-301	No	Supplementary Well	---	---	X	---	X	2
	W-302	No	Supplementary Well	---	---	X	---	X	2
	W-303	No	Supplementary Well	---	---	X	---	X	2
	W-304	No	Supplementary Well	---	---	X	---	X	2
	W-305	Yes	Downgradient Boundary	---	---	X	---	X	2
	W-306	Yes	Downgradient Boundary	---	---	X	---	X	2
	W-307R	No	Supplementary Well	---	---	X	---	X	2
	W-308	No	Supplementary Well	---	---	X	---	X	2
	W-309	No	Supplementary Well	---	---	X	---	X	2
	W-314	Yes	Downgradient Boundary	---	---	X	---	X	2
	W-317	Yes	CCR Well	---	---	X	---	X	2
	BAP	No	Surface Water	---	---	X	---	X	2
	Tanner Wash Sump	No	Seepage Collection Sump	---	---	X	---	X	2
	Petroglyph Sump	No	Seepage Collection Sump	---	---	X	---	X	2
Toe Drain Sump	No	Seepage Collection Sump	---	---	X	---	X	2	
TWX-3	No	Extraction Well	---	---	X	---	X	2	
TWX-4	No	Extraction Well	---	---	NS ²	---	NS ²	0	
TWX-5	No	Extraction Well	---	---	X	---	X	2	
TWX-6	No	Extraction Well	---	---	X	---	NS ²	1	
TWX-7	No	Extraction Well	---	---	X	---	X	2	
TWX-8	No	Extraction Well	---	---	NS ²	---	NS ²	0	
TWX-9	No	Extraction Well	---	---	X	---	X	2	
TWX-10	No	Extraction Well	---	---	X	---	X	2	
BAM	M-54	Yes	Background	X	X	---	X	---	3
	M-59	Yes	Downgradient Boundary	NS ¹	X	---	X	---	2
	M-60	Yes	Downgradient Boundary	X	X	---	X	---	3
	M-61	Yes	Downgradient Boundary	NS ¹	X	---	X	---	2

Table 3-2
Monitoring Event Summary for 2023

CCR Unit	Monitoring Location	CCR Compliance Well	Monitoring Point Designation	Number of Field Original Samples Collected in 2023 ^(a)					Number of Field Original Samples Collected in 2023 ^(a)
				January 26, 2023 (Detection Resampling)	April 12 - 13, 2023 (Detection Sampling)	April 12 - 26 and May 10, 2023 (Assessment Sampling)	November 20 - 21, 2023 (Detection Sampling)	October 11 - 24, and November 21, 2023 (Assessment Sampling)	
FAP	EW-01	No	Extraction Well	---	---	---	---	X	1
	EW-02	No	Extraction Well	---	---	---	---	X	1
	EW-03	No	Extraction Well	---	---	---	---	X	1
	EW-04	No	Extraction Well	---	---	---	---	X	1
	M-43A	No	Supplementary Well	---	---	X	---	X	2
	M-44D	No	Supplementary Well	---	---	X	---	X	2
	M-45A	No	Supplementary Well	---	---	X	---	X	2
	M-46A	No	Supplementary Well	---	---	X	---	X	2
	M-50A	Yes	Downgradient Boundary	---	---	X	---	X	2
	M-51A	Yes	Downgradient Boundary	---	---	X	---	X	2
	M-63A	No	Supplementary Well	---	---	X	---	X	2
	M-65A	Yes	Downgradient	---	---	X	---	X	2
	M-66A	Yes	Downgradient	---	---	X	---	X	2
	M-67A	Yes	Downgradient	---	---	X	---	X	2
	W-123R	Yes	Downgradient Boundary	---	---	X	---	X	2
	W-125	No	Supplementary Well	---	---	X	---	X	2
	W-126R	No	Supplementary Well	---	---	X	---	X	2
	FAP	No	Surface Water	---	---	X	---	X	2
Geronimo C	No	Seepage Collection Sump	---	---	X	---	X	2	
Geronimo D	No	Seepage Collection Sump	---	---	X	---	X	2	
GSX-1R	No	Extraction Well	---	---	---	---	X	1	
Hunt B	No	Extraction Well	---	---	X	---	X	2	
<i>Analyzed Constituents</i>				<i>Select App III Constituents</i>	<i>App III Constituents</i>	<i>App III, App IV and Additional Constituents</i>	<i>App III Constituents</i>	<i>App III, App IV and Additional Constituents</i>	116

Notes and Abbreviations:^(a) Totals exclude field duplicate samples.^(b) In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03^(c) Background well for both the BAP and FAP.¹Well was not sampled as part of the resampling event since this location was not included in the implemented 1 of 2 resampling strategy for the initial exceedance above the associated BTV.²Well contained no groundwater and was measured dry during the sampling event³Well contained an insufficient amount of groundwater to support sample collection

NS = Not Sampled

Monitoring Point Descriptions:

Background - Monitoring location used to determine background groundwater quality that has not been affected by the CCR unit under investigation (40 CFR §257.91)

Downgradient - Monitoring location used to evaluate the nature and extent of groundwater conditions associated with each CCR unit

Downgradient Boundary - Monitoring location used to assess the groundwater conditions at the boundary of each CCR unit

Extraction - Well location that currently supports the hydraulic containment system with the extraction of groundwater located downgradient of a CCR unit

Supplementary - Monitoring location intended to further support interpretations of both immediate CCR Unit-area conditions and Site-wide conditions

Seepage Collection Sump - Sump location that currently supports the hydraulic containment system with the extraction of groundwater located downgradient of a CCR unit

Table 3-3
 Aquifer Properties and Groundwater Flow Calculations

CCR Unit (Wells Used in Calculations)	Estimated Hydraulic Conductivity [ft/d]	Estimated Effective Porosity	Monitoring Event	Calculated Hydraulic Gradient [ft/ft]	Calculated Groundwater Flow Direction [degrees from North]	Estimated Groundwater Flow Rate [ft/d]
BAP (M-52A, M-53A, W-301, W-302, W-304, W-306, W-307R)	0.96 ^(a)	0.26 ^(c)	April 2023	0.015	188	0.06
			October 2023	0.014	188	0.05
FAP (M-50A, M-51A, W-123R, W-126R, MW-65A, MW-66A, MW-67A)	3.98 ^(b)	0.26 ^(c)	April 2023	0.019	240	0.29
			October 2023	0.018	236	0.28
BAM (M-54, M-59, M61)	31 ^(a)	0.26 ^(c)	April 2023	0.0091	360	1.1
			October 2023	0.0090	359	1.1

Abbreviations:

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

References:

^(a) Montgomery & Associates, 2018. *Annual Groundwater Monitoring and Corrective Action Report for Cholla Power Plant Coal Combustion Residuals Program, November 2015 - December 2017*. Navajo County, Arizona. Document # CH_GW_ANCAR_O2O_20180131. January 30, 2018.
^(b) Wood Environment & Infrastructure Solutions, Inc., 2021
^(c) Morris, D.A. and A.I. Johnson, 1967. Summary of hydrologic and physical properties of rock and soil materials as analyzed by the Hydrologic Laboratory of the U.S. Geological Survey, U.S. Geological Survey Water-Supply Paper 1839-D, 42p.

Table 4-1
Total Site Mass Removed Appendix IV Constituents

Total Mass Removed (tons)		3.0	
Average Volume Pumped per Day (gpd)		87,726	
Total Volume Pumped (gallons)		30,704,028	
Year	2023		
Constituent	BAP* (lbs/yr)	FAP (lbs/yr)	Total (lbs/yr)
Fluoride**	5,590.9	305.4	5,896.3
Antimony	1.1	0.5	1.6
Arsenic	0.5	0.6	1.1
Barium	1.4	0.6	2.0
Beryllium	0.2	0.1	0.3
Cadmium	0.2	0.1	0.3
Chromium	0.7	0.3	1.0
Cobalt	1.5	0.2	1.7
Lead	0.3	0.2	0.4
Lithium	41.8	35.6	77.3
Mercury	0.1	0.1	0.1
Molybdenum	2.2	14.7	16.9
Selenium	1.0	0.2	1.2
Thallium	2.0	0.3	2.3
Total (lb/yr)	5,643.7	358.9	6,002.5
Total (tons)	2.8	0.2	3.0

Notes:

* Total flow and groundwater chemistry data from the TWX extraction wells are not accounted for in this calculation due to a lack of totalizer readings past March 2023.

** Only fluoride concentrations from Semiannual Event 2 were used due to high method detection limits reported for the Semiannual Event 1 analytical data

Abbreviations:

gal - gallons

gpd - gallons per day

lbs - pounds

yr - year

Table 4-2
Individual Site Chemistry and Flow Volumes

Source Area		BAP ¹									FAP		
Well/Seep		Toe Drain			Petroglyph			Tanner Wash			Geronimo/Hunt Combo		
Flow (gpd) ¹		7,109			2,875			56,743			20,303		
Total Annual Flow (gal) ³		2,488,000			1,006,330			19,860,000			7,349,698		
Analyte		mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr
Appendix III	Fluoride ²	2.50	0.15	54	3	0.07	25	32.00	15.17	5,537	4.93	0.84	305
	Sulfate	3,150	187	68,278	3,050.00	73	26,740	3,100	1,469	536,365	4,167	706.71	257,951
	TDS	8,500	505	184,242	7,750	186	67,946	7,800	3,697	1,349,563	14,000	2,374.56	866,715
Appendix IV	Antimony	0.006	0.0003	0.12	0.01	0.0001	0.048	0.01	0.0026	0.95	0.0083	0.0014	0.52
	Arsenic	0.001	0.0001	0.03	0.00	0.0000	0.01	0.00	0.0012	0.44	0.0102	0.0017	0.63
	Barium	0.01	0.0003	0.13	0.01	0.0001	0.05	0.01	0.0036	1.30	0.0093	0.0016	0.57
	Beryllium	0.001	0.0001	0.02	0.00	0.0000	0.01	0.00	0.0005	0.17	0.0010	0.0002	0.06
	Cadmium	0.001	0.0001	0.03	0.00	0.0000	0.011	0.00	0.0005	0.18	0.0013	0.0002	0.08
	Chromium	0.006	0.0003	0.12	0.01	0.0001	0.05	0.00	0.0016	0.57	0.0046	0.0008	0.28
	Cobalt	0.00	0.0002	0.08	0.01	0.0002	0.07	0.01	0.0039	1.42	0.0039	0.0007	0.24
	Lead	0.00	0.0001	0.04	0.00	0.0000	0.01	0.00	0.0006	0.22	0.0027	0.0005	0.17
	Lithium	0.21	0.0125	4.55	0.22	0.0053	1.93	0.22	0.1019	37.2	0.5750	0.0975	36
	Mercury	0.001	0.0001	0.024	0.00	0.0000	0.010	0.00	0.0001	0.03	0.0011	0.0002	0.07
	Molybdenum	0.01	0.0006	0.22	0.01	0.0004	0.13	0.01	0.0054	1.96	0.2380	0.0404	14.7
	Selenium	0.006	0.0003	0.12	0.01	0.0001	0.05	0.01	0.0025	0.91	0.0030	0.0005	0.19
Thallium	0.010	0.0006	0.218	0.01	0.0002	0.088	0.01	0.0048	1.74	0.0053	0.0009	0.33	
Additional	Iron	0.61	0.04	13	0.20	0.00	1.75	1.13	0.53	195	0.23	0.11	38.93
	Magnesium	275	16	5,961	255	6.13	2,236	280	133	48,446	447	212	77,283
	Manganese	2.85	0.17	62	1.20	0.03	11	1.65	0.78	285	1.39	0.66	241.08
	Nickel		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Potassium	15	0.89	325	20	0.48	175	17	8.06	2,941	46	21.96	8,017
	Silica	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sodium	1,700	101	36,848	1,500	36	13,151	1,450	687	250,880	3,433	1,628	594,038
Total (lbs)		59.9			27.9			5,583.8			359		

Notes:

¹ Total flow/groundwater chemistry data from the TWX extraction wells are not used in this calculation due to inconsistent totalizer readings

² Only fluoride concentrations from Semiannual Event 2 were used due to high method detection limits reported for the Semiannual Event 1 analytical data

³ December 20, 2022-December 5, 2023

Abbreviations:

gpd - gallons per day

lbs - pound

mg/L - milligrams per liter

yr - year

FIGURES





State Overview



Area of Detail



Job No. 14-2023-2012
 PM: MBH
 Date: 1/29/2024
 Scale: 1" = 1.5 miles



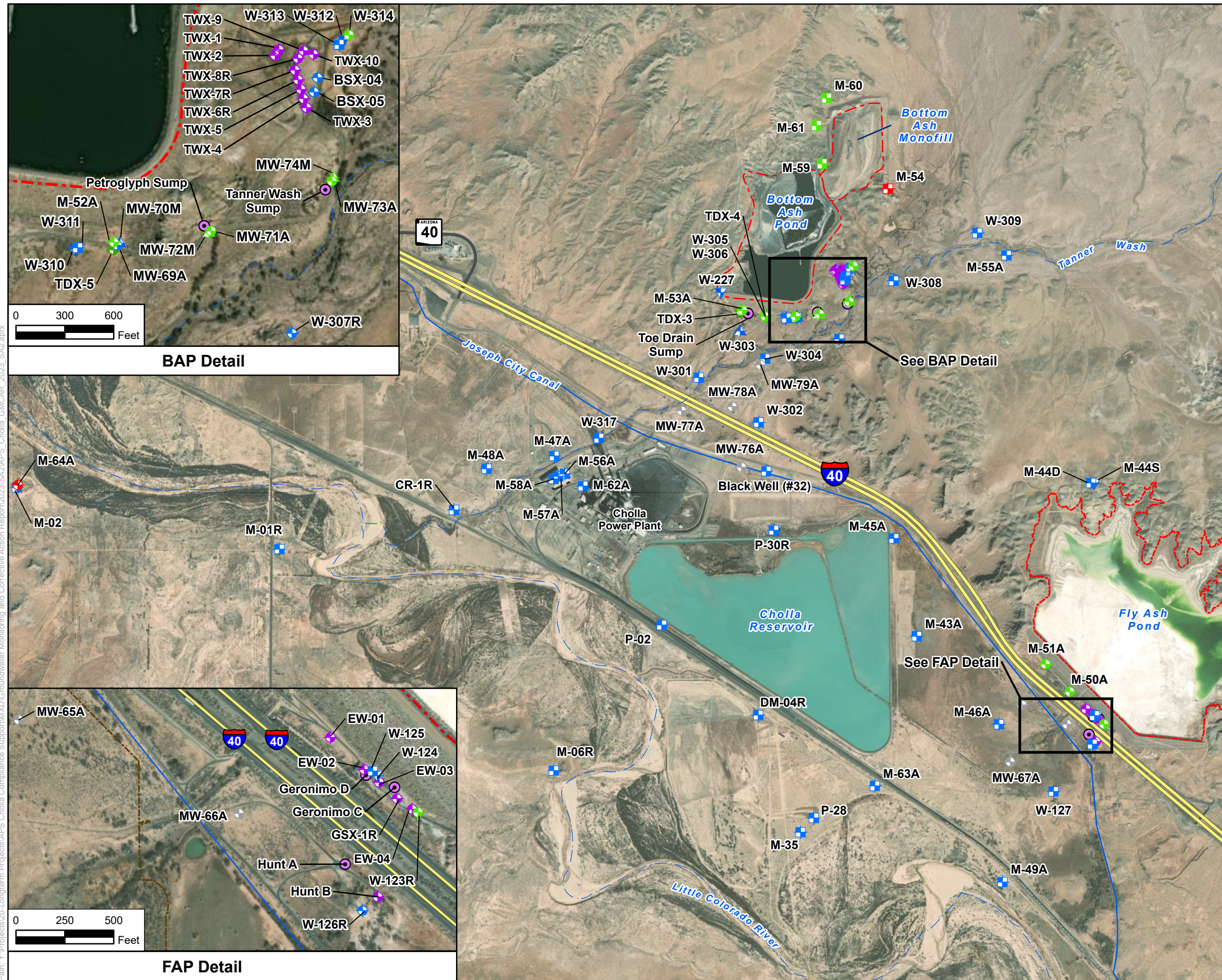
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 Navajo County, Arizona

Site Location Map

FIGURE
 1-1





Legend

CCR Monitoring Well Location

- ◆ CCR Monitoring Well - Background, Alluvial
- CCR Monitoring Well - Background, C-Aquifer
- ◆ CCR Monitoring Well - Downgradient, Alluvial
- ◆ CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, C-Aquifer
- ▲ CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Supplementary Site Monitoring Well Location

- C-Aquifer Monitoring Well; Alluvial Monitoring Well; Supplementary Monitoring Well, C-Aquifer
- ▲ Moenkopi Formation (Moqui Member) Monitoring Well
- ▼ Moenkopi Formation (Wupatki Member) Monitoring Well

Other Features

- ◆ Extraction Well
- ◆ Extraction (Inactive) Well
- Seepage Collection Sump
- Ephemeral Surface Water Feature
- Canal
- Approximate Extent of CCR Unit
- Approximate Extent of Closed CCR Unit

Notes:
 In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03
 TWX area is also referred to as the P-226 or B-226 area on some historical drawings and figures.

0 1,000 2,000 Feet

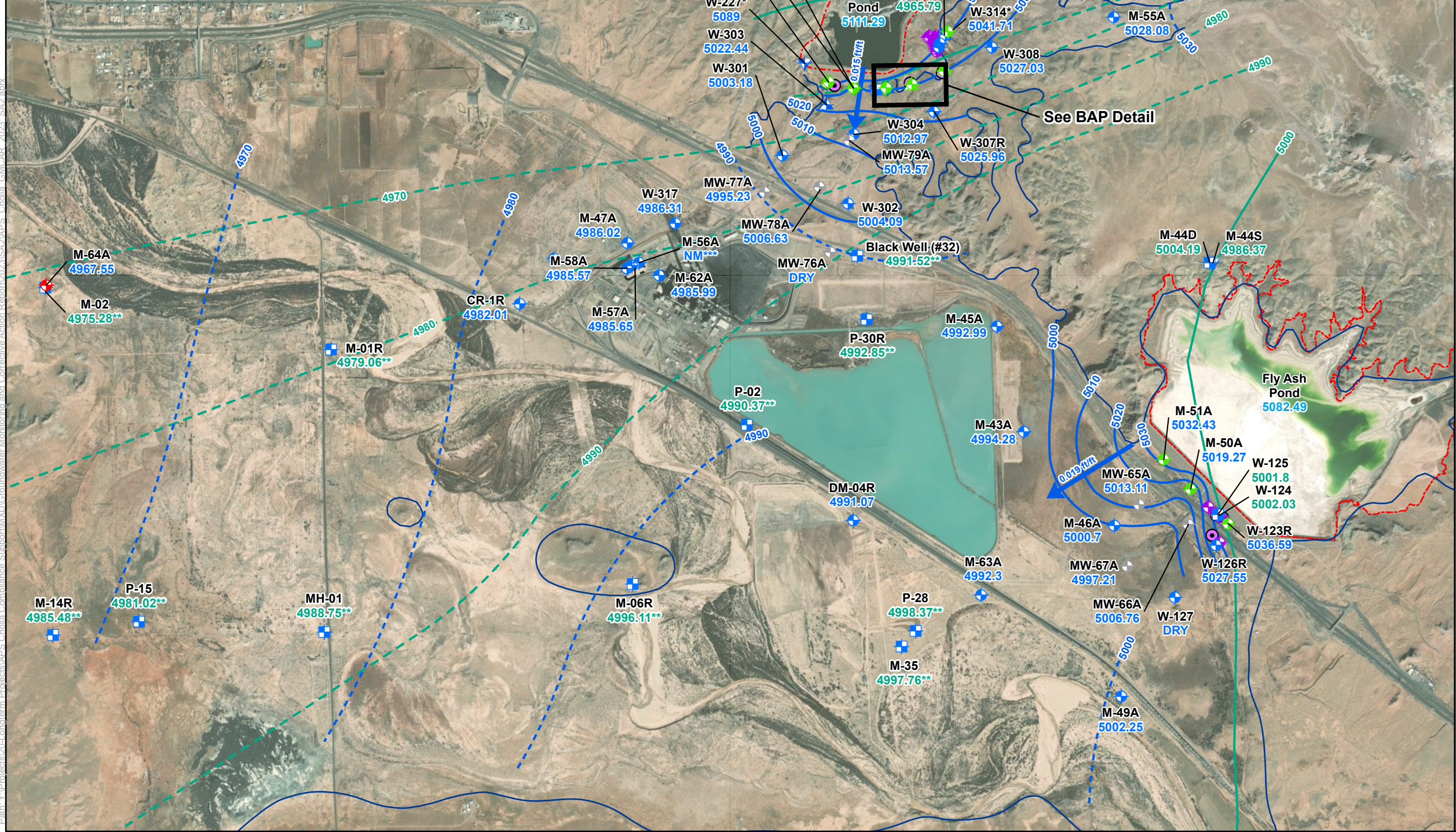
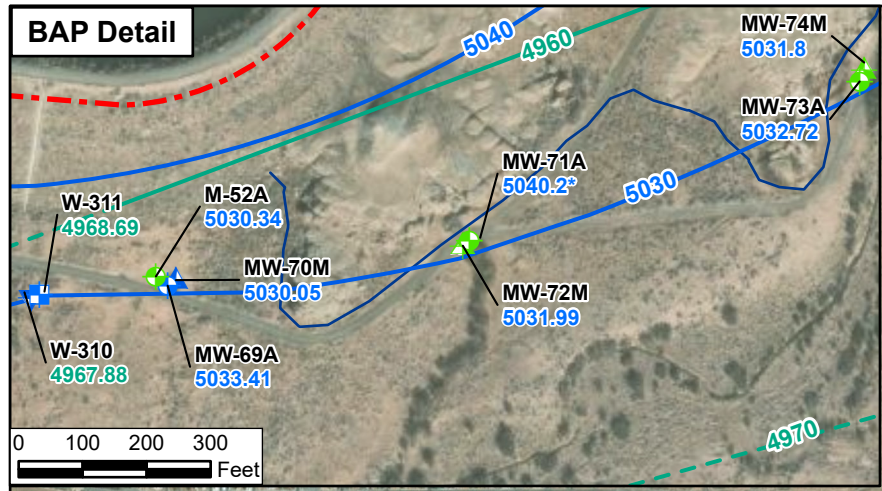
N

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FIGURE 1-2 CCR Units and Groundwater Monitoring System Summary Map

Job No. 14-2023-2012 PM: MBH Date: 1/30/2024 Scale: 1" = 2,000 feet	
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Path: Y:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2023\SA2\APS_Cholla_GMCAr_2023_SA2.aprx



Legend

- CCR Monitoring Well Location**
 - ◆ CCR Monitoring Well - Background, Alluvial
 - CCR Monitoring Well - Background, C-Aquifer
 - ◆ CCR Monitoring Well - Downgradient, Alluvial
 - ◆ CCR Monitoring Well - Downgradient Boundary, Alluvial
 - CCR Monitoring Well - Downgradient Boundary, C-Aquifer
 - ▲ CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)
- Supplementary Site Monitoring Well Location**
 - ◆ Alluvial Monitoring Well
 - C-Aquifer Monitoring Well; Supplementary Monitoring Well, C-Aquifer
 - ▲ Moenkopi Formation (Moqui Member) Monitoring Well
 - ▼ Moenkopi Formation (Wupatki Member) Monitoring Well
- Other Features**
 - ◆ Extraction Well
 - ◆ Extraction (Inactive) Well
 - Seepage Collection Sump
 - Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
 - Groundwater Elevation Contour (ft amsl) C-Aquifer; dashed where inferred
 - Groundwater Flow Direction
 - Extent of Alluvial Material
 - Approximate Extent of CCR Unit
 - Approximate Extent of Closed CCR Unit

- Notes and Abbreviations:**
- MW-45A** Well Identification
 - 4992.65** Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl)
 - 5002.36** C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
 - 5082.49** CCR Surface Water Elevation
 - NM** Not Measured
 - *** Well not used in potentiometric surface mapping
 - **** C-Aquifer contours and groundwater elevations provided by Montgomery & Associates
 - ***** Well inaccessible due to inability to open well vault
 - ft amsl Feet above mean sea level
 - CCR Coal Combustion Residuals
- 0 1,050 2,100 Feet

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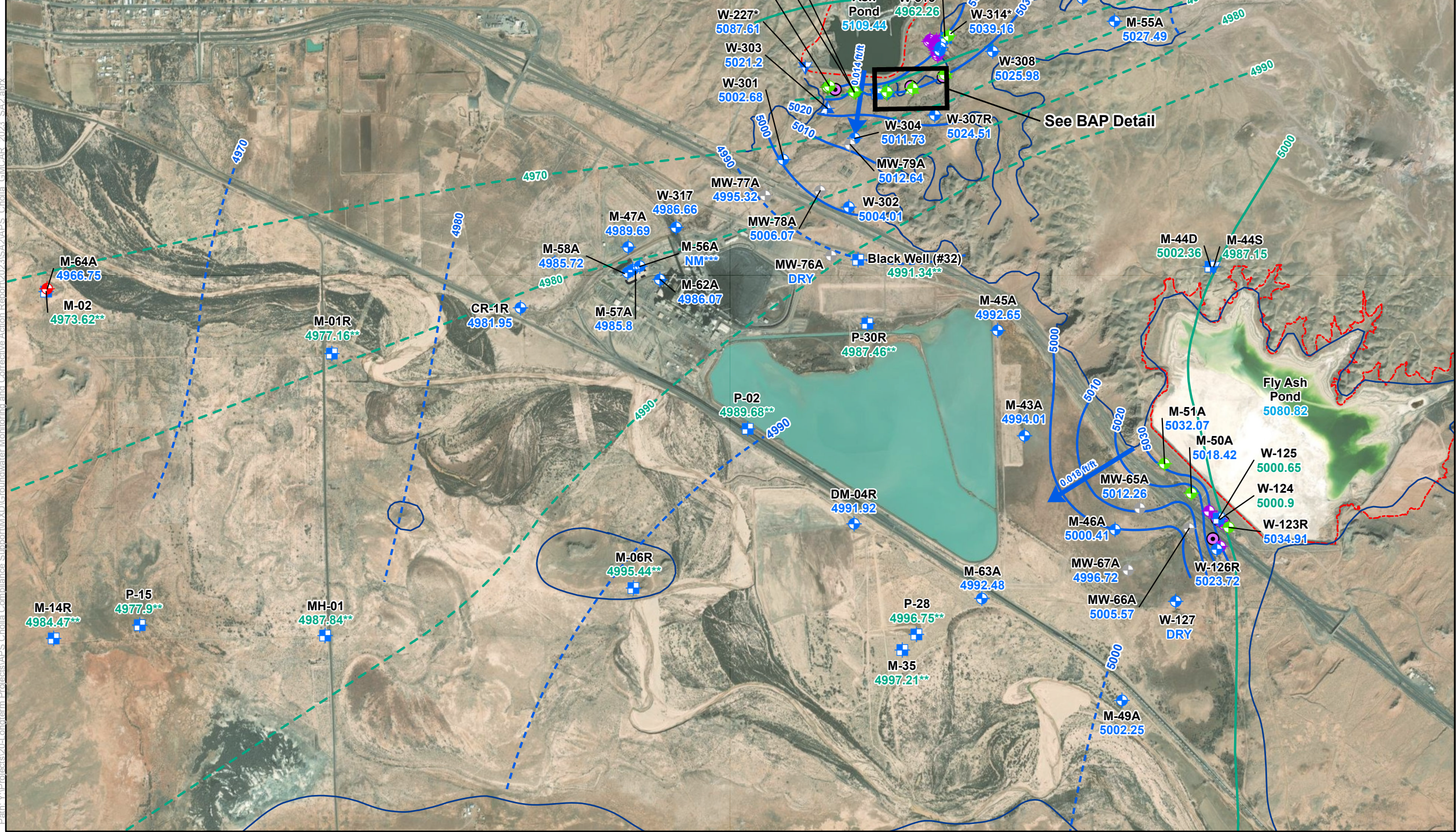
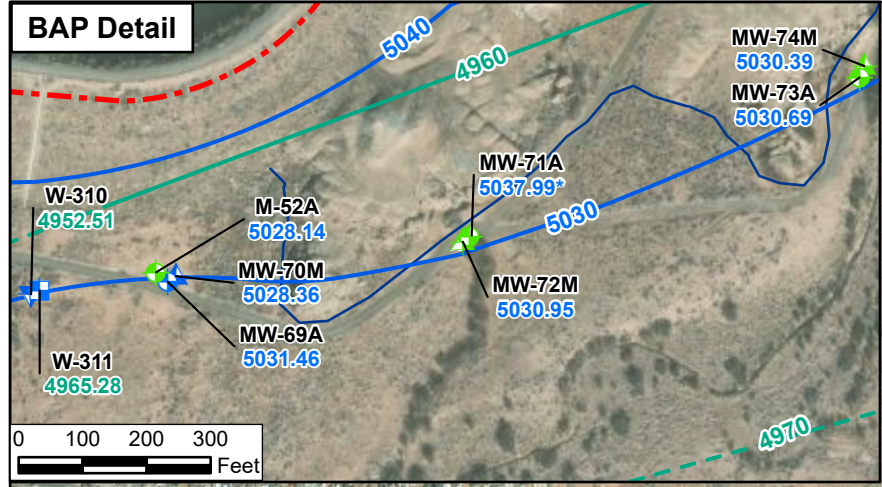
Figure 3-1 Potentiometric Surface Map April 2023

Job No. 14-2023-2012
PM: MBH
Date: 1/30/2024
Scale: 1" = 2,100 feet



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Legend

CCR Monitoring Well Location

- CCR Monitoring Well - Background, Alluvial
- CCR Monitoring Well - Background, C-Aquifer
- CCR Monitoring Well - Downgradient, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, C-Aquifer
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Supplementary Site Monitoring Well Location

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

Other Features

- Extraction Well
- Extraction (Inactive) Well
- Seepage Collection Sump
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
- Groundwater Elevation Contour (ft amsl) C-Aquifer; dashed where inferred
- Groundwater Flow Direction
- Extent of Alluvial Material
- Approximate Extent of CCR Unit
- Approximate Extent of Closed CCR Unit

Notes and Abbreviations:

- MW-65A Well Identification
- 5012.53 Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl)
- 4986.83 C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
- 5080.82 CCR Surface Water Elevation
- NM Not Measured
- * Well not used in potentiometric surface mapping
- ** C-Aquifer contours and groundwater elevations provided by Montgomery & Associates
- *** Well inaccessible due to inability to open well vault
- ft amsl Feet above mean sea level
- CCR Coal Combustion Residuals

0 1,050 2,100 Feet

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Figure 3-2 Potentiometric Surface Map October 2023

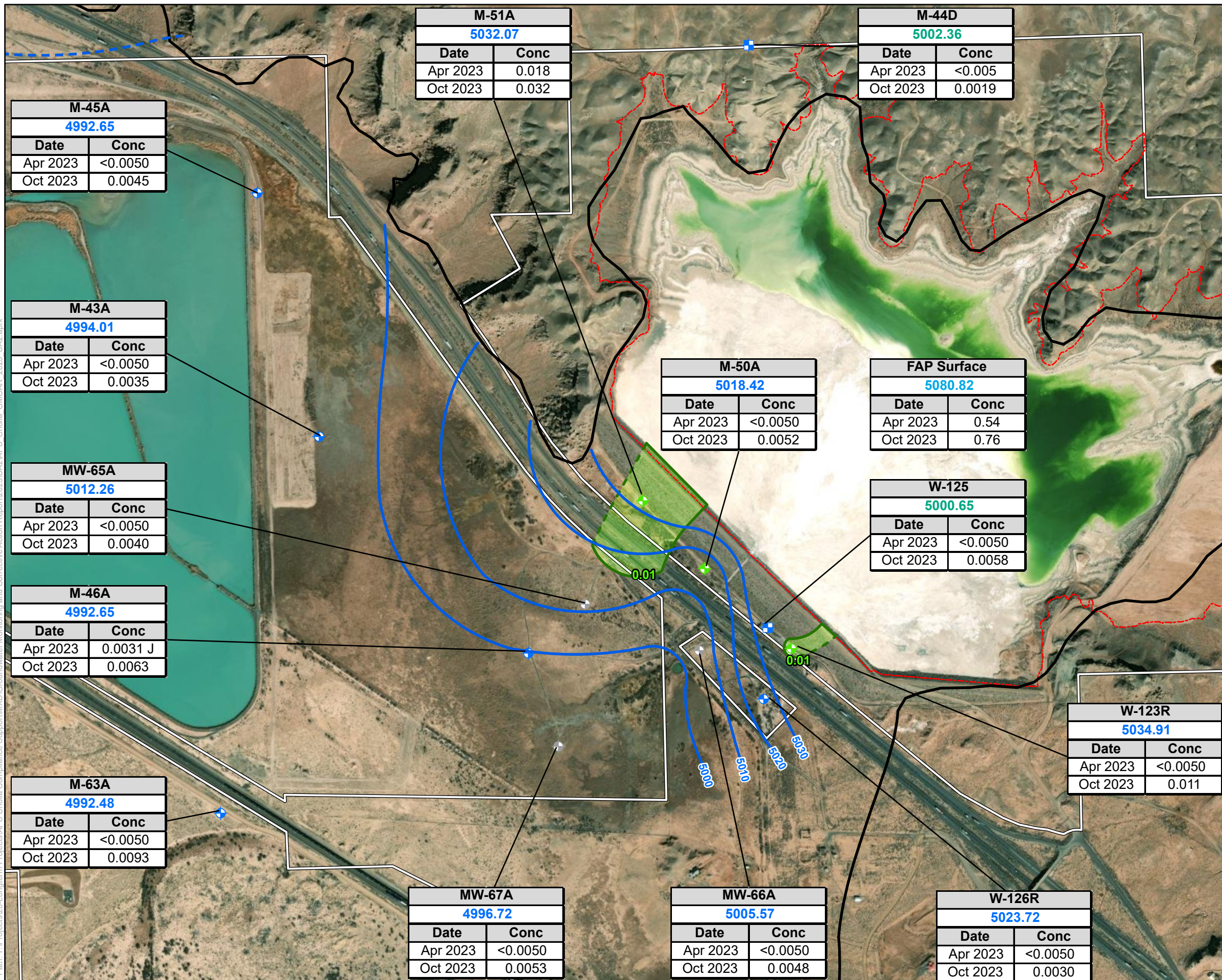
Job No. 14-2023-2012
 PM: MBH
 Date: 1/30/2024
 Scale: 1" = 2,100 feet

WSP

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Path: Y:\Projects\2024\Longterm Projects\APS Compliance Support\MXD\Cumulative Monitoring and Corrective Action Report\2023\SA2\APS Cholla_GMICAR_2023_SA2.aprx



Legend

CCR Monitoring Well Location

- CCR Monitoring Well - Downgradient, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Alluvial

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well

Estimated Alluvial Extent

- Estimated Alluvial Extent

Approximate Extent of CCR Unit

- Approximate Extent of CCR Unit

APS Land Ownership

- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2023)

- Groundwater Elevation (Dashed Where Inferred)

Arsenic Concentration in Groundwater (October 2023)

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

Notes and Abbreviations:

- M-43A Well Identification
- 4994.01 Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2023
- 5002.36 C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2023
- 5080.82 CCR Surface Water Elevation October 2023
- 0.0035 Arsenic concentration (mg/L)
- J Result is estimated quantity
- ft amsl Feet above mean sea level
- mg/L Milligrams per liter
- CCR Coal Combustion Residuals
- GWPS Groundwater Protection Standard

0 400 800
Feet

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Navajo County, Arizona

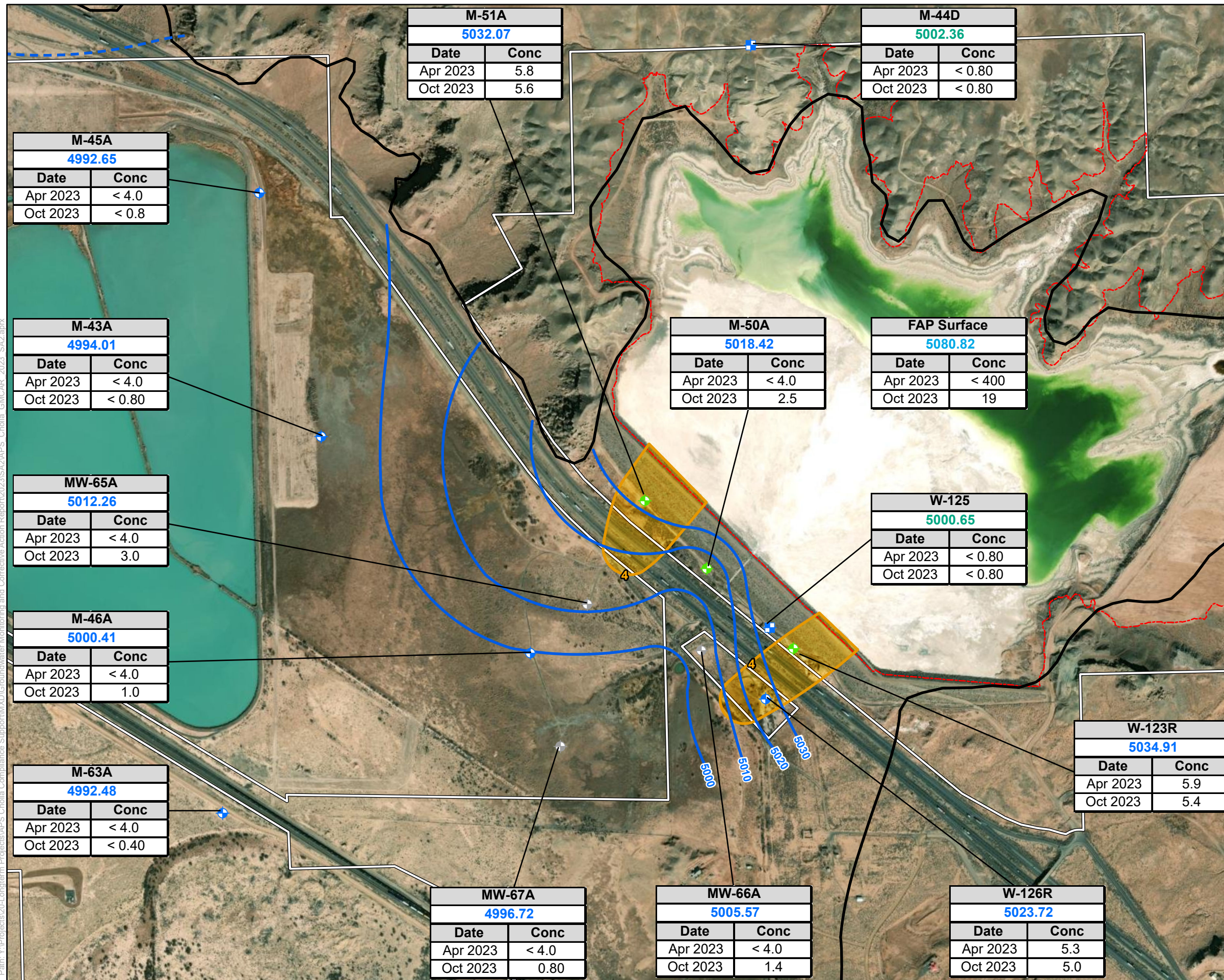
Figure
4-1

**Arsenic Iso-Concentration Map
for the Fly Ash Pond**

Job No.	14-2023-2012
PM:	MBH
Date:	1/30/2024
Scale:	1"= 800'

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Legend

CCR Monitoring Well Location

- ⊕ CCR Monitoring Well - Downgradient, Alluvial
- ⊕ CCR Monitoring Well - Downgradient Boundary, Alluvial

Supplementary Site Monitoring Well Location

- ⊕ Alluvial Monitoring Well
- ⊕ C-Aquifer Monitoring Well

- Estimated Alluvial Extent
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2023)

- Groundwater Elevation (Dashed Where Inferred)

Fluoride Concentration in Alluvial Aquifer (October 2023)

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

Notes and Abbreviations:

- M-43A** Well Identification
- 4994.01** Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2023
- 5002.36** C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2023
- 5080.82** CCR Surface Water Elevation October 2023
- < 0.8** Fluoride concentration (mg/L)
- ft amsl** Feet above mean sea level
- mg/L** Milligrams per liter
- CCR** Coal Combustion Residuals
- GWPS** Groundwater Protection Standard

0 400 800
Feet

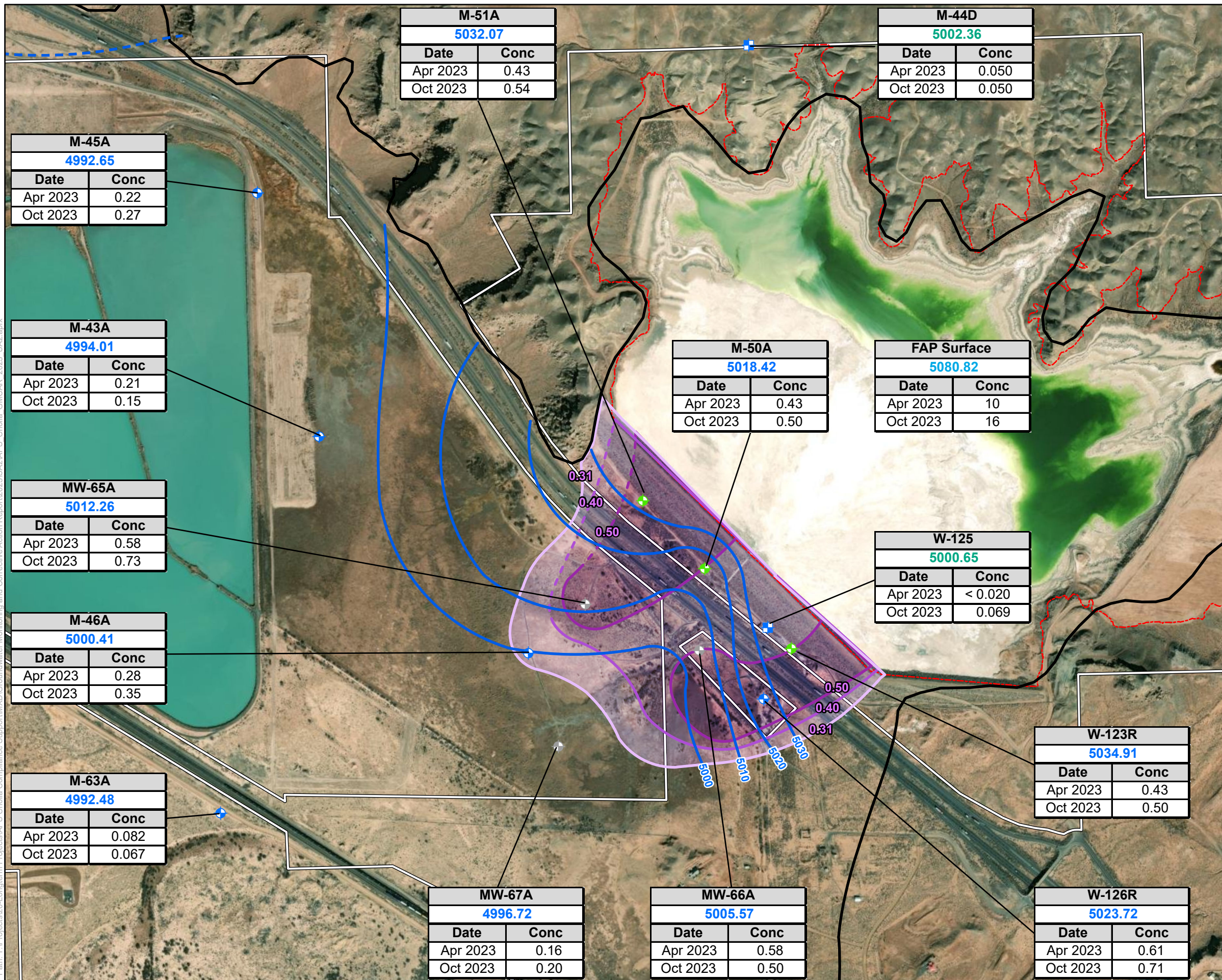
Arizona Public Service
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Navajo County, Arizona

Figure 4-2 Fluoride Iso-Concentration Map for the Fly Ash Pond

Job No. 14-2023-2012
PM: MBH
Date: 1/30/2024
Scale: 1"= 800'

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Path: Y:\Projects\2024\Longterm Projects\APS Compliance Support\MXD\CircularWaterMonitoring and Corrective Action Report\2023\SA2\APS Cholla_GMICAR_2023_SA2.aprx



Legend

CCR Monitoring Well Location

- ⊕ CCR Monitoring Well - Downgradient, Alluvial
- ⊕ CCR Monitoring Well - Downgradient Boundary, Alluvial

Supplementary Site Monitoring Well Location

- ⊕ Alluvial Monitoring Well
- ⊕ C-Aquifer Monitoring Well

- Estimated Alluvial Extent
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2023)

- Groundwater Elevation (Dashed Where Inferred)

Lithium Concentration in Alluvial Aquifer (October 2023)

- > 0.31 mg/L
- > 0.40 mg/L
- > 0.50 mg/L
- GWPS (0.31 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

- M-43A Well Identification
- 4994.01 Alluvial/Moenkopi Moqul Groundwater Elevation (ft amsl) October 2023
- 5002.36 C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2023
- 5080.82 CCR Surface Water Elevation October 2023
- 0.15 Lithium concentration (mg/L)
- ft amsl Feet above mean sea level
- mg/L Milligrams per liter
- CCR Coal Combustion Residuals
- GWPS Groundwater Protection Standard

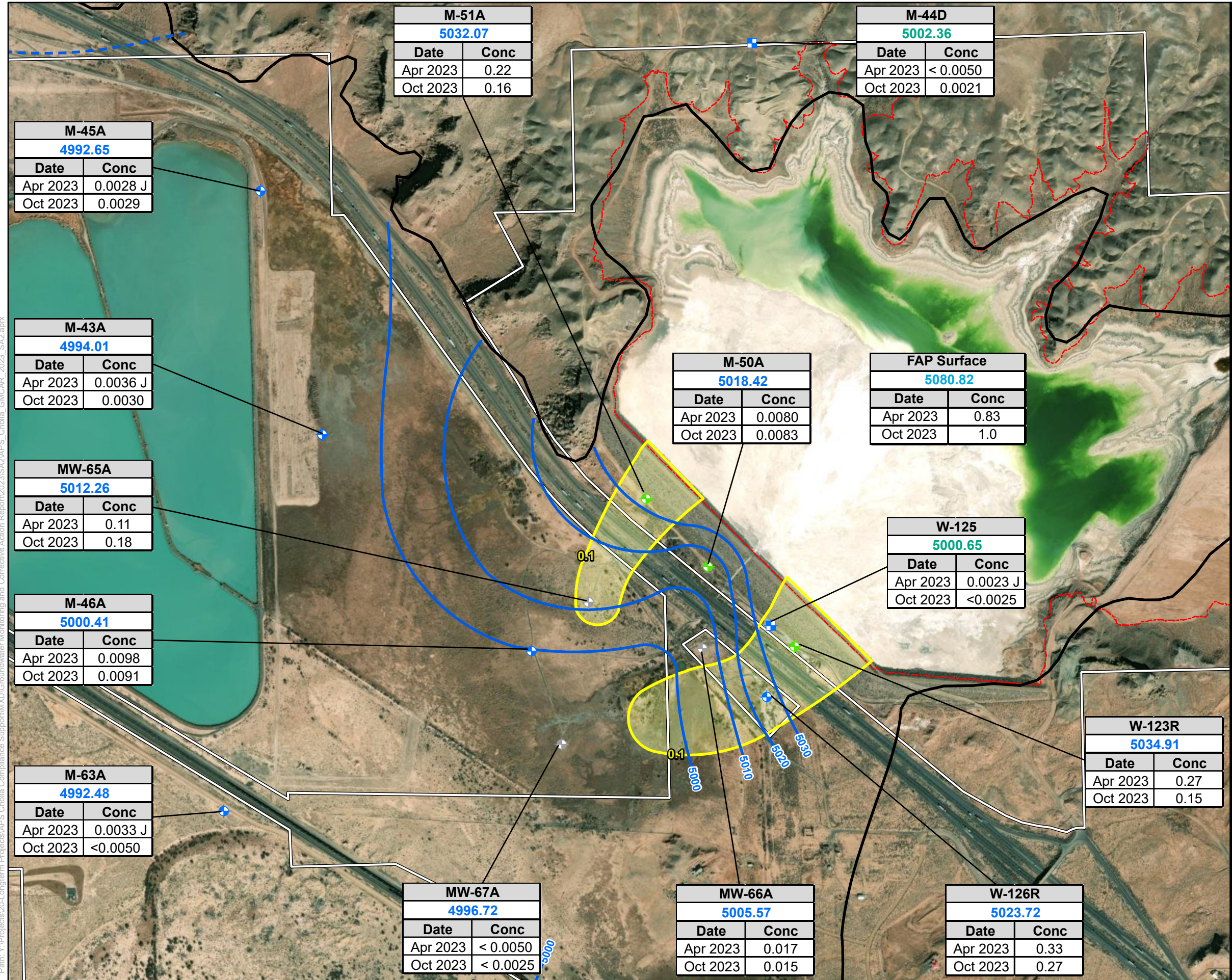
0 400 800
Feet

Arizona Public Service
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Navajo County, Arizona

Figure 4-3	Lithium Iso-Concentration Map for the Fly Ash Pond
-------------------	---

Job No. 14-2023-2012	
PM: MBH	
Date: 1/30/2024	
Scale: 1" = 800'	

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Legend

- CCR Monitoring Well Location
 - CCR Monitoring Well - Downgradient, Alluvial
 - CCR Monitoring Well - Downgradient Boundary, Alluvial
- Supplementary Site Monitoring Well Location
 - Alluvial Monitoring Well
 - C-Aquifer Monitoring Well
- Estimated Alluvial Extent
- Approximate Extent of CCR Unit
- APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2023)

- Groundwater Elevation (Dashed Where Inferred)

Molybdenum Concentration in Alluvial Aquifer (October 2023)

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

Notes and Abbreviations:

- M-43A Well Identification
- 4994.01 Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2023
- 5002.36 C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl) October 2023
- 5080.82 CCR Surface Water Elevation October 2023
- 0.003 Molybdenum concentration (mg/L)
- ft amsl Feet above mean sea level
- mg/L Milligrams per liter
- CCR Coal Combustion Residuals
- GWPS Groundwater Protection Standard



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Figure 4-4 Molybdenum Iso-Concentration Map for the Fly Ash Pond

Job No. 14-2023-2012
PM: MBH
Date: 1/30/2024
Scale: 1" = 800'



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M-51A	
5032.07	
Date	Conc
Apr 2023	0.22
Oct 2023	0.16

M-44D	
5002.36	
Date	Conc
Apr 2023	< 0.0050
Oct 2023	0.0021

M-45A	
4992.65	
Date	Conc
Apr 2023	0.0028 J
Oct 2023	0.0029

M-43A	
4994.01	
Date	Conc
Apr 2023	0.0036 J
Oct 2023	0.0030

MW-65A	
5012.26	
Date	Conc
Apr 2023	0.11
Oct 2023	0.18

M-46A	
5000.41	
Date	Conc
Apr 2023	0.0098
Oct 2023	0.0091

M-63A	
4992.48	
Date	Conc
Apr 2023	0.0033 J
Oct 2023	<0.0050

M-50A	
5018.42	
Date	Conc
Apr 2023	0.0080
Oct 2023	0.0083

FAP Surface	
5080.82	
Date	Conc
Apr 2023	0.83
Oct 2023	1.0

W-125	
5000.65	
Date	Conc
Apr 2023	0.0023 J
Oct 2023	<0.0025

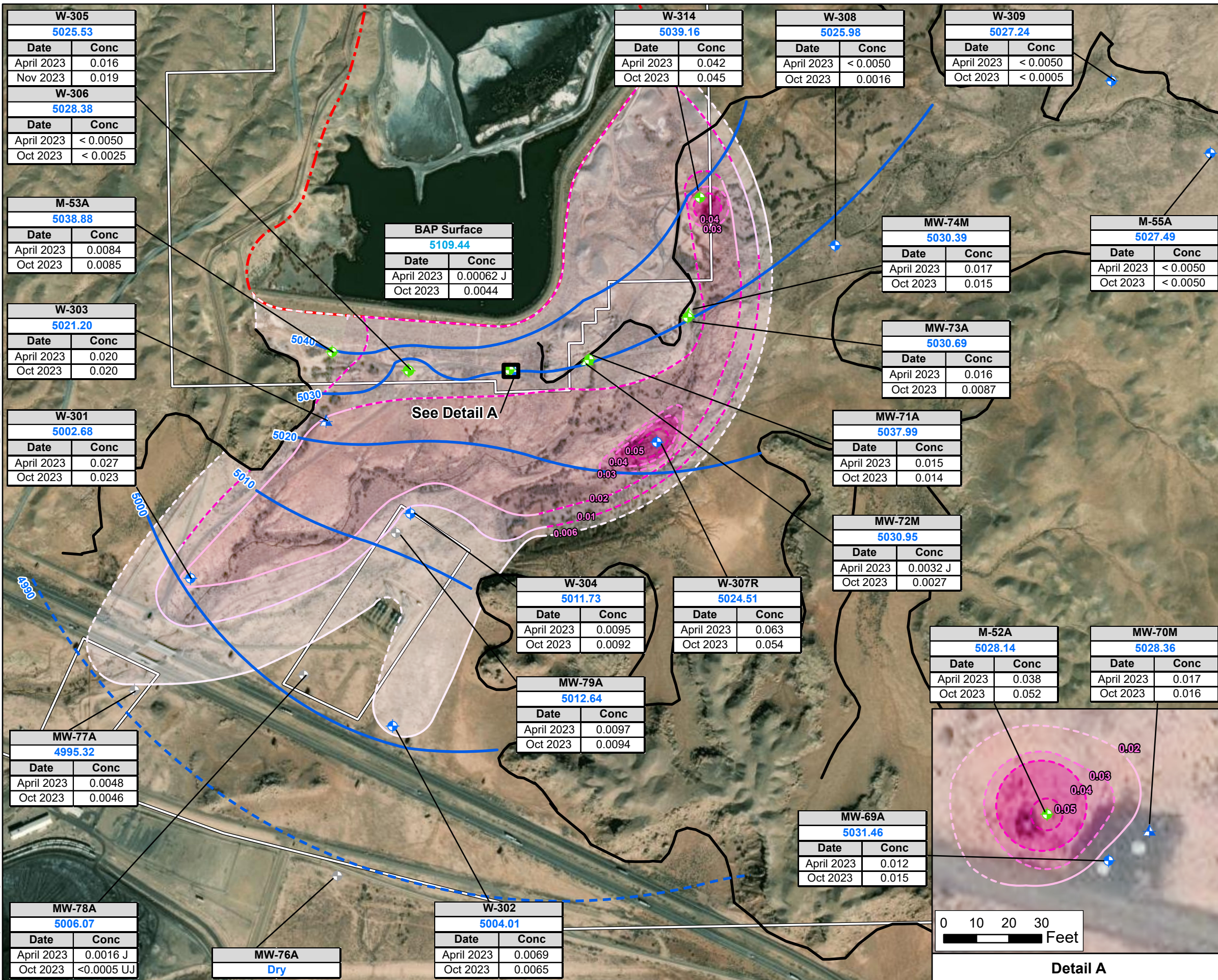
W-123R	
5034.91	
Date	Conc
Apr 2023	0.27
Oct 2023	0.15

MW-67A	
4996.72	
Date	Conc
Apr 2023	< 0.0050
Oct 2023	< 0.0025

MW-66A	
5005.57	
Date	Conc
Apr 2023	0.017
Oct 2023	0.015

W-126R	
5023.72	
Date	Conc
Apr 2023	0.33
Oct 2023	0.27

Path: Y:\Projects\20-Longterm Projects\APS Compliance Support\MXD\Cumulative Monitoring and Corrective Action Report\2023\AS2\APS_Cholla_GMICAR_2023_SAA2.aprx



Legend

CCR Monitoring Well Location

- CCR Monitoring Well - Downgradient, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Alluvial
- CCR Monitoring Well - Downgradient Boundary, Moenkopi Formation (Moqui Member)

Supplementary Site Monitoring Well Location

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

Estimated Alluvial Extent

APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2023)

Groundwater Elevation (Dashed Where Inferred)

Cobalt Concentration in Groundwater (October and November 2023)

- >0.006 mg/L
- >0.01 mg/L
- >0.02 mg/L
- >0.03 mg/L
- >0.04 mg/L
- >0.05 mg/L

GWPS (0.006 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

- W-304** Well Identification
- 5011.73** Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2023
- 5109.44** CCR Surface Water Elevation October 2023
- NM** Not Measured
- 0.0092** Cobalt concentration (mg/L)
- J** Result is estimated quantity
- U** The analyte was analyzed for, but not detected
- ft amsl** Feet above mean sea level
- mg/L** Milligrams per liter
- CCR** Coal Combustion Residuals
- GWPS** Groundwater Protection Standard

0 300 600
Feet

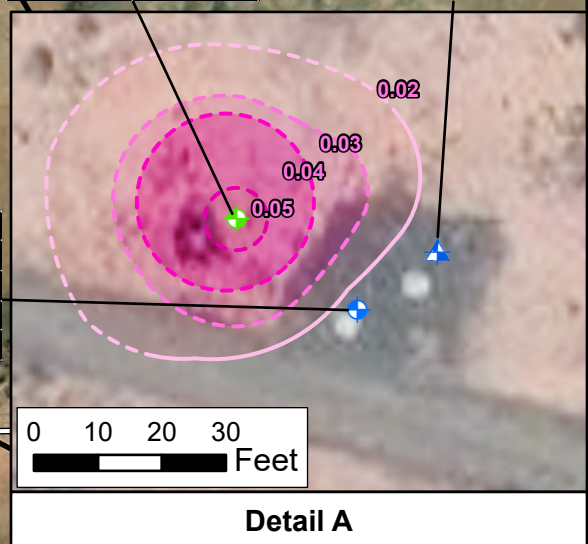
0 10 20 30
Feet

**Arizona Public Service
Cholla Power Plant
Navajo County, Arizona**

Figure 4-5 Cobalt Iso-Concentration Map for the Bottom Ash Pond

Job No. 14-2023-2012
PM: MBH
Date: 1/30/2024
Scale: 1" = 600'

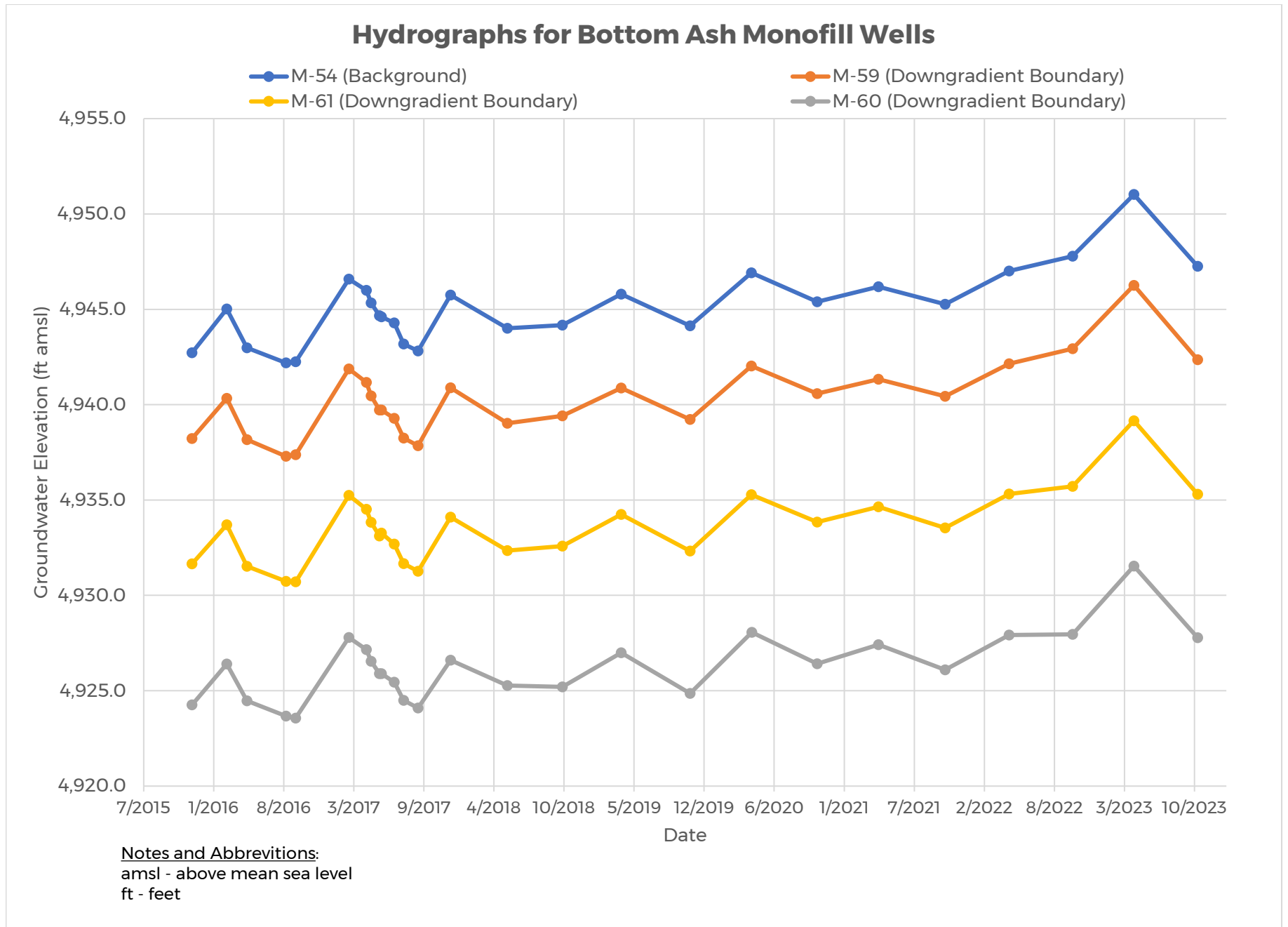
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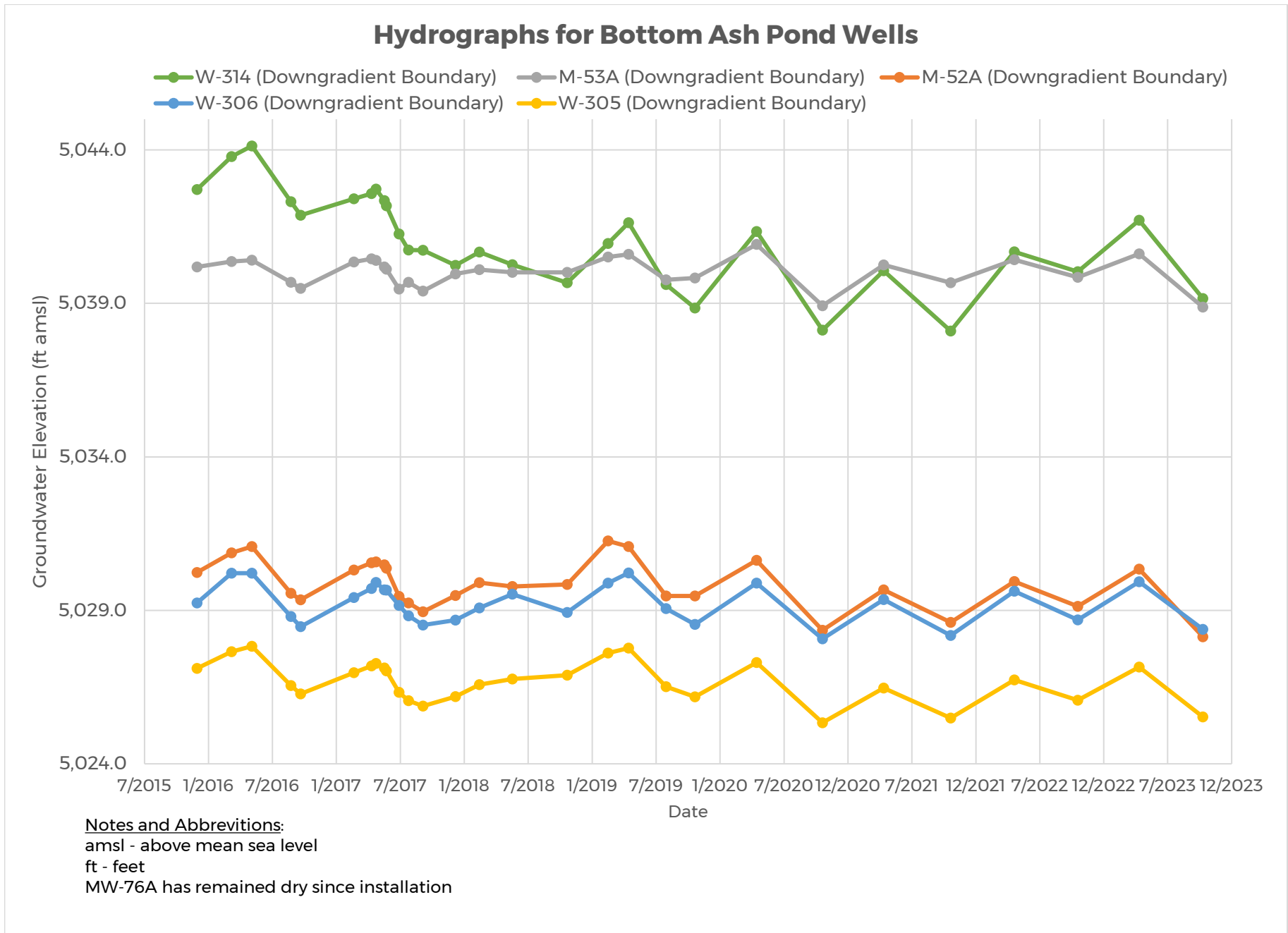


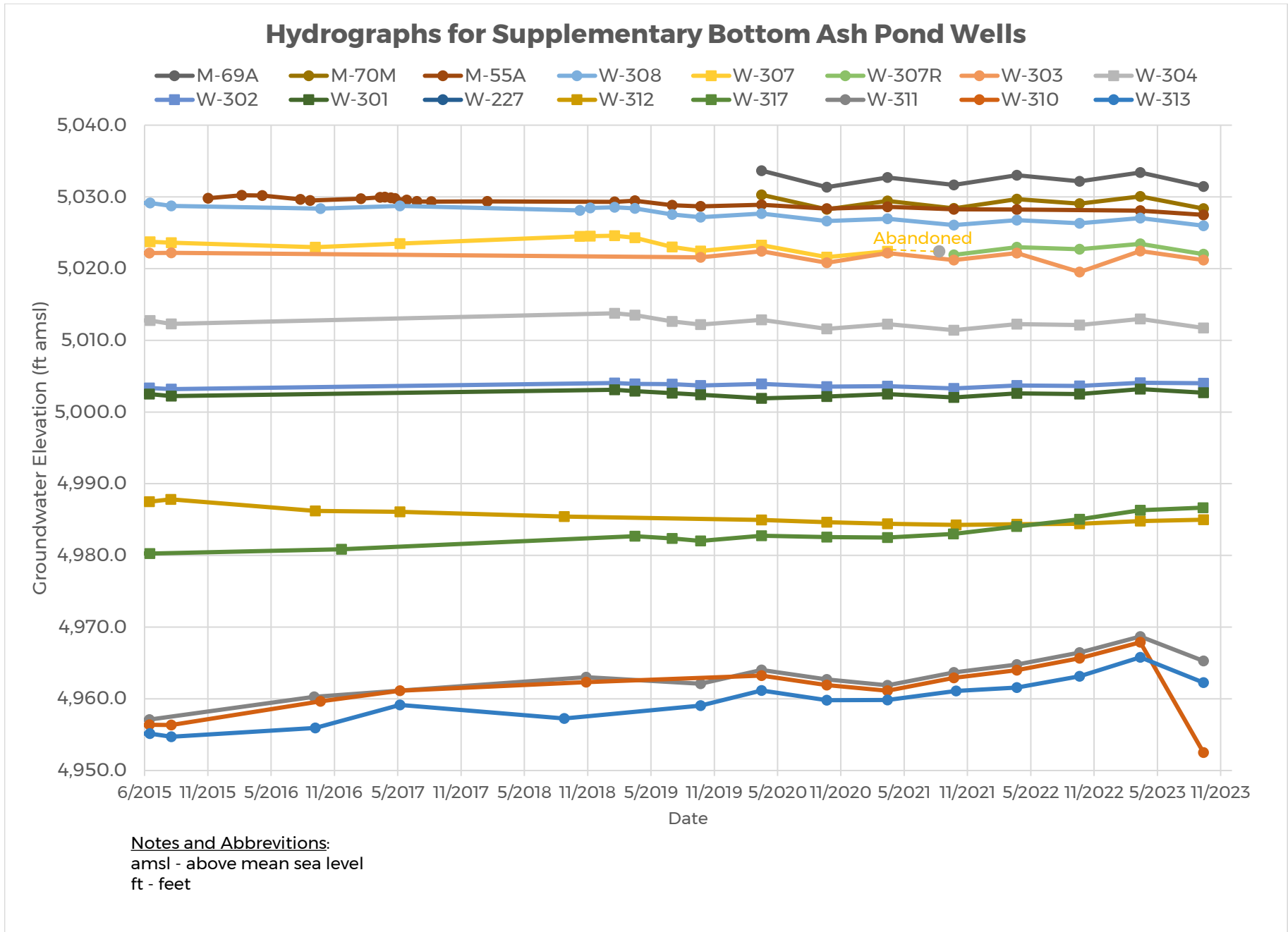
APPENDIX

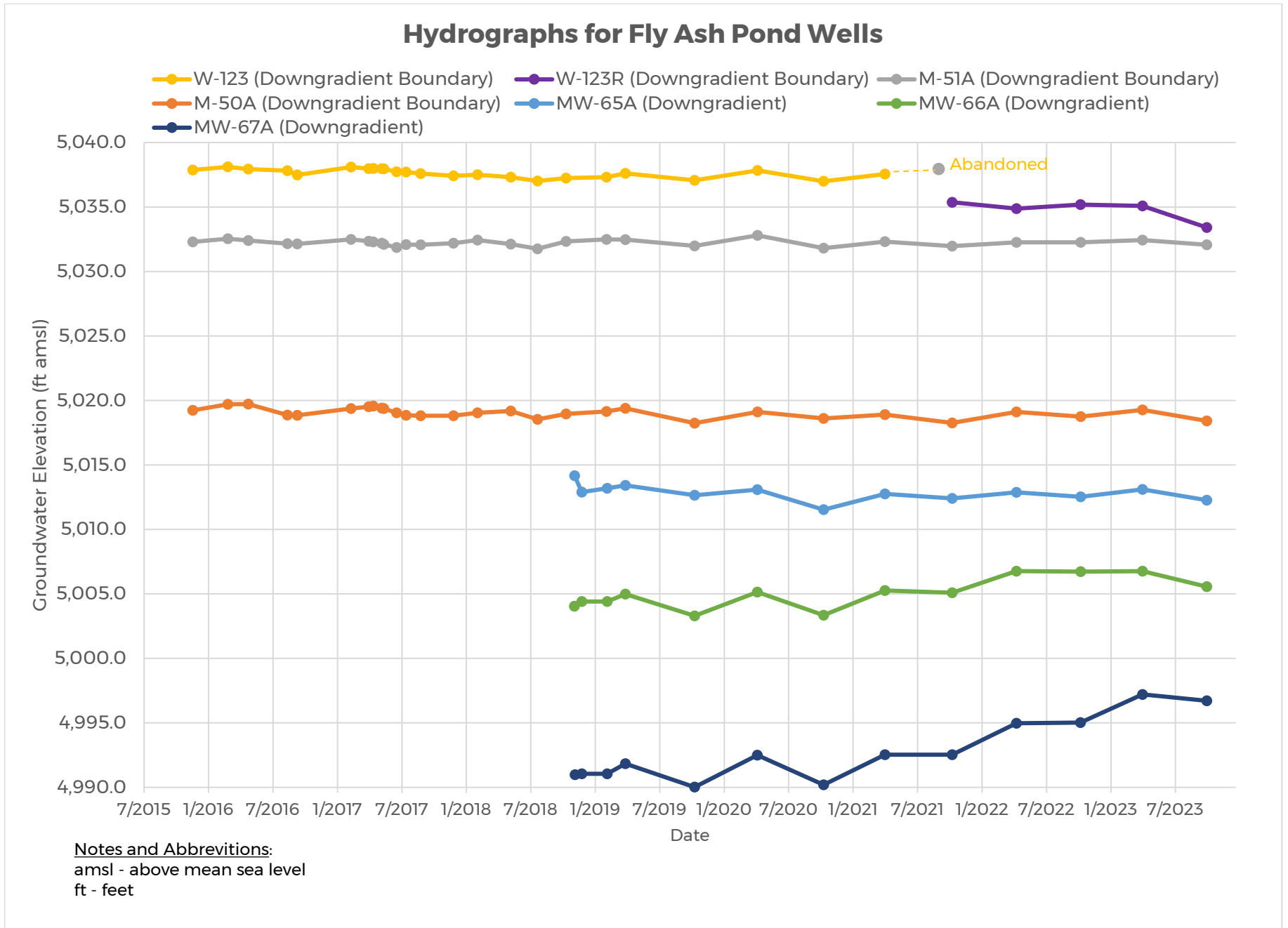
A

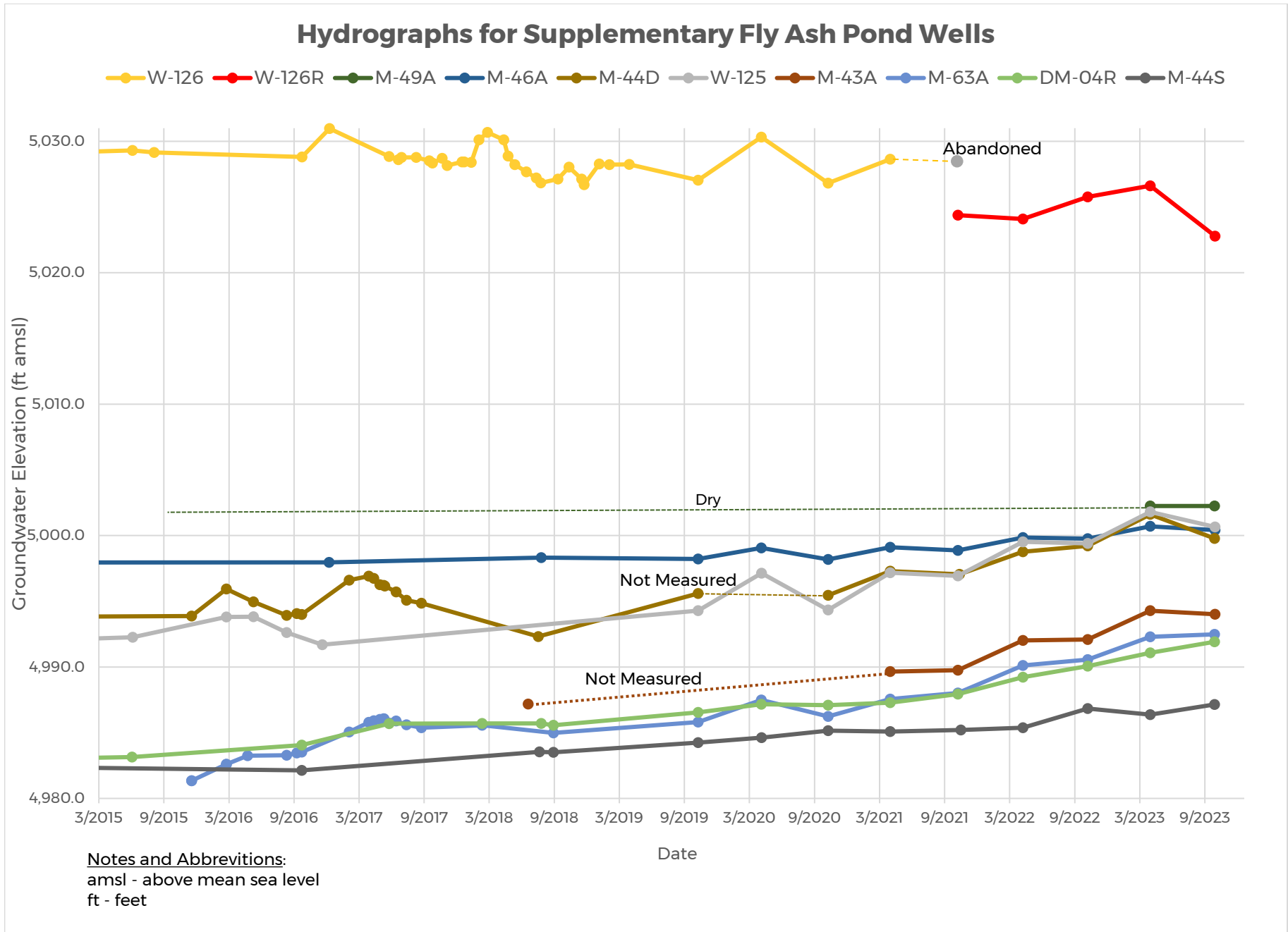
GROUNDWATER ELEVATION
DATA AND HYDROGRAPHS
THROUGH 2023

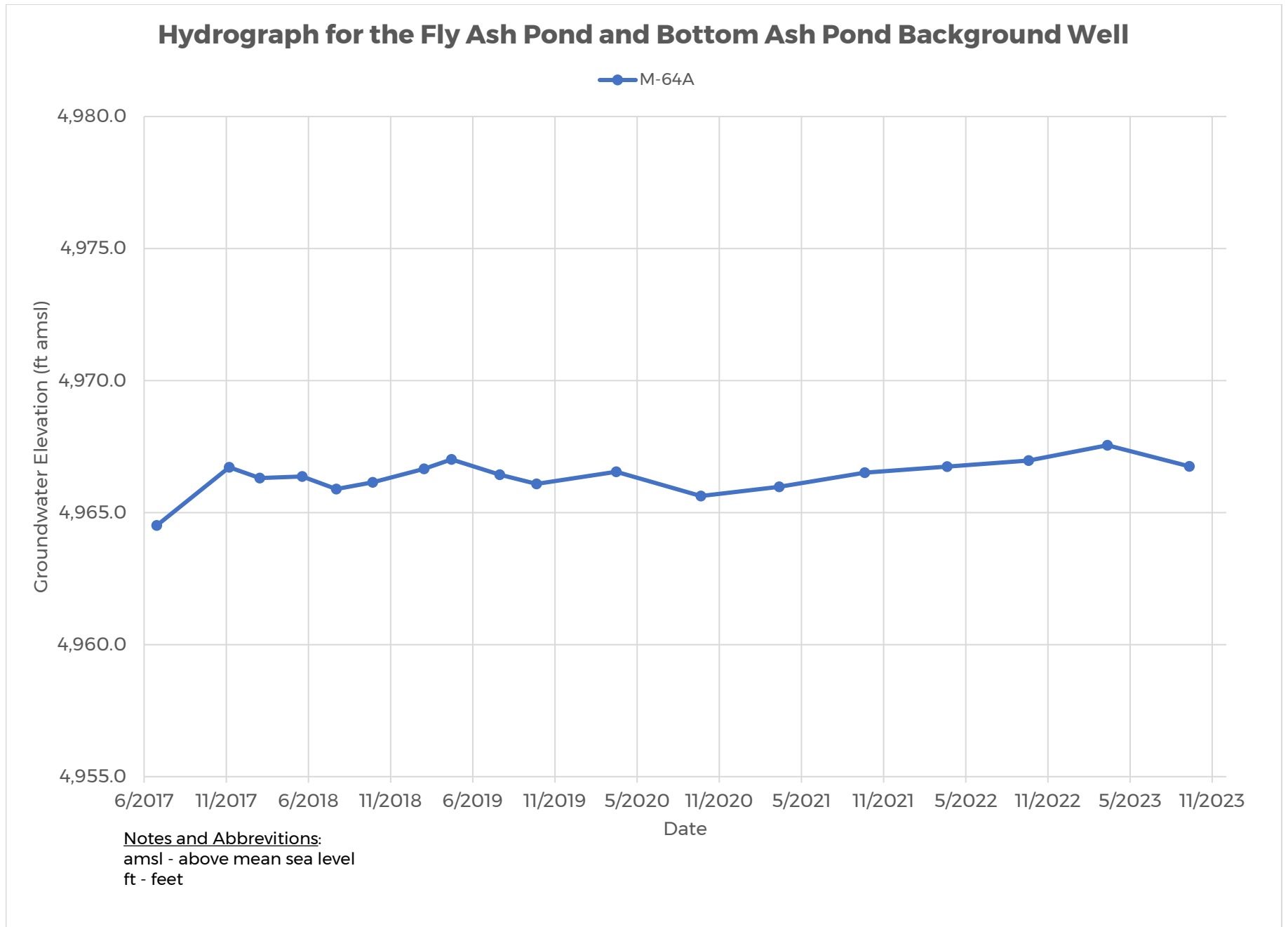












Appendix A - Groundwater Elevations and Hydrographs

M-50A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5038.18	18.95	5019.23
3/8/2016	5038.18	18.47	5019.71
5/5/2016	5038.18	18.46	5019.72
8/24/2016	5038.18	19.32	5018.86
9/21/2016	5038.18	19.33	5018.85
2/20/2017	5038.18	18.81	5019.37
4/11/2017	5038.18	18.66	5019.52
4/24/2017	5038.18	18.62	5019.56
5/18/2017	5038.18	18.77	5019.41
5/24/2017	5038.18	18.81	5019.37
6/29/2017	5038.18	19.13	5019.05
7/26/2017	5038.18	19.33	5018.85
9/5/2017	5038.18	19.37	5018.81
12/7/2017	5038.18	19.36	5018.82
2/13/2018	5038.18	19.13	5019.05
5/18/2018	5038.18	18.99	5019.19
8/2/2018	5038.18	19.65	5018.53
10/22/2018	5038.18	19.23	5018.95
2/13/2019	5038.18	19.03	5019.15
4/8/2019	5038.18	18.79	5019.39
10/21/2019	5038.18	19.94	5018.24
4/16/2020	5038.18	19.07	5019.11
10/20/2020	5038.18	19.57	5018.61
4/12/2021	5038.18	19.28	5018.90
10/19/2021	5038.18	19.92	5018.26
4/19/2022	5038.18	19.07	5019.11
10/18/2022	5038.18	19.43	5018.75
4/11/2023	5038.18	18.91	5019.27
10/10/2023	5038.18	19.76	5018.42
<i>Maximum Observed:</i>		<i>5019.72 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5018.24 ft AMSL</i>	
<i>Range:</i>		<i>1.48 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

M-51A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5041.77	9.47	5032.30
3/8/2016	5041.77	9.23	5032.54
5/5/2016	5041.77	9.37	5032.40
8/24/2016	5041.77	9.62	5032.15
9/21/2016	5041.77	9.63	5032.14
2/20/2017	5041.77	9.29	5032.48
4/11/2017	5041.77	9.42	5032.35
4/24/2017	5041.77	9.48	5032.29
5/18/2017	5041.77	9.57	5032.20
5/24/2017	5041.77	9.66	5032.11
6/29/2017	5041.77	9.91	5031.86
7/26/2017	5041.77	9.68	5032.09
9/5/2017	5041.77	9.7	5032.07
12/7/2017	5041.77	9.58	5032.19
2/13/2018	5041.77	9.33	5032.44
5/18/2018	5041.77	9.64	5032.13
8/2/2018	5041.77	10.01	5031.76
10/22/2018	5041.77	9.44	5032.33
2/13/2019	5041.77	9.28	5032.49
4/8/2019	5041.77	9.3	5032.47
10/21/2019	5041.77	9.78	5031.99
4/16/2020	5041.77	8.97	5032.80
10/20/2020	5041.77	9.96	5031.81
4/12/2021	5041.77	9.45	5032.32
10/19/2021	5041.77	9.81	5031.96
4/19/2022	5041.77	9.5	5032.27
10/18/2022	5041.77	9.5	5032.27
4/11/2023	5041.77	9.34	5032.43
10/10/2023	5041.77	9.7	5032.07
<i>Maximum Observed:</i>		<i>5032.80 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5031.76 ft AMSL</i>	
<i>Range:</i>		<i>1.04 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-65A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/15/2018	5027.86	13.70	5014.16
12/5/2018	5027.86	14.96	5012.90
2/15/2019	5027.86	14.67	5013.19
4/8/2019	5027.86	14.45	5013.41
10/21/2019	5027.86	15.21	5012.65
4/15/2020	5027.86	14.78	5013.08
10/20/2020	5027.86	16.33	5011.53
4/12/2021	5027.86	15.11	5012.75
10/19/2021	5027.86	15.46	5012.40
4/19/2022	5027.86	14.99	5012.87
10/18/2022	5027.86	15.33	5012.53
4/11/2023	5027.86	14.75	5013.11
10/10/2023	5027.86	15.6	5012.26
<i>Maximum Observed:</i>		<i>5014.16 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5011.53 ft AMSL</i>	
<i>Range:</i>		<i>2.63 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-66A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/14/2018	5033.35	29.31	5004.04
12/5/2018	5033.35	28.93	5004.42
2/15/2019	5033.35	28.93	5004.42
4/8/2019	5033.35	28.36	5004.99
10/21/2019	5033.35	30.05	5003.30
4/15/2020	5033.35	28.20	5005.15
10/20/2020	5033.35	30.00	5003.35
4/12/2021	5033.35	28.08	5005.27
10/19/2021	5033.35	28.25	5005.10
4/19/2022	5033.35	26.58	5006.77
10/18/2022	5033.35	26.63	5006.72
4/11/2023	5033.35	26.59	5006.76
10/10/2023	5033.35	27.78	5005.57
<i>Maximum Observed:</i>		<i>5006.77 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5003.30 ft AMSL</i>	
<i>Range:</i>		<i>3.47 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-67A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/16/2018	5025.38	34.4	4990.98
12/5/2018	5025.38	34.32	4991.06
2/15/2019	5025.38	34.32	4991.06
4/8/2019	5025.38	33.54	4991.84
10/21/2019	5025.38	35.36	4990.02
4/15/2020	5025.38	32.88	4992.5
10/20/2020	5025.38	35.18	4990.2
4/12/2021	5025.38	32.84	4992.54
10/19/2021	5025.38	32.84	4992.54
4/19/2022	5025.38	30.41	4994.97
10/17/2022	5025.38	30.35	4995.03
4/11/2023	5025.38	28.17	4997.21
10/10/2023	5025.38	28.66	4996.72
<i>Maximum Observed:</i>		4997.21	ft AMSL
<i>Minimum Observed:</i>		4990.02	ft AMSL
<i>Range:</i>		7.19	ft

W-123			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/30/2015	5039.84	1.97	5037.87
3/8/2016	5039.84	1.73	5038.11
5/5/2016	5039.84	1.90	5037.94
8/24/2016	5039.84	2.02	5037.82
9/21/2016	5039.84	2.35	5037.49
2/20/2017	5039.84	1.74	5038.10
4/11/2017	5039.84	1.86	5037.98
4/24/2017	5039.84	1.85	5037.99
5/18/2017	5039.84	1.87	5037.97
5/24/2017	5039.84	1.88	5037.96
6/29/2017	5039.84	2.11	5037.73
7/26/2017	5039.84	2.12	5037.72
9/5/2017	5039.84	2.25	5037.59
12/7/2017	5039.84	2.43	5037.41
2/13/2018	5039.84	2.34	5037.50
5/18/2018	5039.84	2.53	5037.31
8/2/2018	5039.84	2.82	5037.02
10/22/2018	5039.84	2.60	5037.24
2/13/2019	5039.84	2.53	5037.31
4/8/2019	5039.84	2.24	5037.60
10/21/2019	5039.84	2.78	5037.06
4/16/2020	5039.84	2.01	5037.83
10/20/2020	5039.84	2.85	5036.99
4/12/2021	5039.84	2.28	5037.56
Well abandoned June 2021			
<i>Maximum Observed:</i>		<i>5038.11 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5036.99 ft AMSL</i>	
<i>Range:</i>		<i>1.12 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

W-123R			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/19/2021	5038.83	3.46	5035.37
4/19/2022	5038.83	3.96	5034.87
10/17/2022	5038.83	3.65	5035.18
4/11/2023	5038.83	3.74	5035.09
10/10/2023	5038.83	5.42	5033.41
	<i>Maximum Observed:</i>	<i>5035.37</i>	<i>ft AMSL</i>
	<i>Minimum Observed:</i>	<i>5033.41</i>	<i>ft AMSL</i>
	<i>Range:</i>	<i>1.96</i>	<i>ft</i>

DM-04R			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
1/30/2009	5018.43	30.38	4988.05
3/19/2009	5018.43	30.54	4987.89
6/22/2009	5018.43	30.61	4987.82
9/29/2009	5018.43	31.04	4987.39
9/8/2010	5018.43	34	4984.43
11/11/2010	5018.43	34.2	4984.23
12/9/2010	5018.43	34.22	4984.21
3/21/2011	5018.43	34	4984.43
6/12/2011	5018.43	34.28	4984.15
6/23/2011	5018.43	34.28	4984.15
8/7/2011	5018.43	34.51	4983.92
9/7/2011	5018.43	34.74	4983.69
11/12/2011	5018.43	35.04	4983.39
3/12/2012	5018.43	35.20	4983.23
6/12/2012	5018.43	35.20	4983.23
9/20/2012	5018.43	36.20	4982.23
10/8/2012	5018.43	35.60	4982.83
3/12/2013	5018.43	35.87	4982.56
10/7/2013	5018.43	36.08	4982.35
6/11/2014	5018.43	35.48	4982.95
6/16/2015	5018.43	35.29	4983.14
10/4/2016	5018.43	34.38	4984.05
6/6/2017	5018.43	32.75	4985.68
2/22/2018	5018.43	32.72	4985.71
8/7/2018	5018.43	32.72	4985.71
9/10/2018	5018.43	32.86	4985.57
10/21/2019	5018.43	31.88	4986.55
4/15/2020	5018.43	31.26	4987.17
10/20/2020	5018.43	31.33	4987.10
4/12/2021	5018.43	31.15	4987.28
10/19/2021	5018.43	30.50	4987.93
4/19/2022	5018.43	29.20	4989.23
10/18/2022	5018.43	28.37	4990.06
4/11/2023	5018.43	27.36	4991.07
10/9/2023	5018.43	26.51	4991.92
<i>Maximum Observed:</i>			4991.92
<i>Minimum Observed:</i>			4982.23
<i>Range:</i>			9.69

Appendix A - Groundwater Elevations and Hydrographs

M-44S			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
8/7/2011	5145.63	161.8	4983.83
1/28/2014	5145.63	163.55	4982.08
2/21/2014	5145.63	163.44	4982.19
3/24/2014	5145.63	163.41	4982.22
4/8/2014	5145.63	163.43	4982.2
5/29/2014	5145.63	163.24	4982.39
6/9/2014	5145.63	163.22	4982.41
10/4/2016	5145.63	163.49	4982.14
8/2/2018	5145.63	162.08	4983.55
9/10/2018	5145.63	162.13	4983.5
10/21/2019	5145.63	161.39	4984.24
4/16/2020	5145.63	161.01	4984.62
10/20/2020	5145.63	160.48	4985.15
4/12/2021	5145.63	160.55	4985.08
10/27/2021	5145.63	160.42	4985.21
4/19/2022	5145.63	160.25	4985.38
10/18/2022	5145.63	158.80	4986.83
4/11/2023	5145.63	159.26	4986.37
10/9/2023	5145.63	158.48	4987.15
<i>Maximum Observed:</i>			4987.15
<i>Minimum Observed:</i>			4982.08
<i>Range:</i>			5.07

Appendix A - Groundwater Elevations and Hydrographs

M-44D			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/11/2010	5140.94	144.81	4996.13
12/9/2010	5140.94	145.3	4995.64
6/23/2011	5140.94	146.2	4994.74
8/7/2011	5140.94	139.46	5001.48
11/12/2011	5140.94	147.11	4993.83
3/12/2012	5140.94	145.39	4995.55
6/12/2012	5140.94	146.81	4994.13
9/25/2012	5140.94	148.3	4992.64
12/6/2012	5140.94	147.3	4993.64
3/14/2013	5140.94	146.48	4994.46
6/25/2014	5140.94	147.14	4993.80
11/30/2015	5140.94	147.06	4993.88
3/7/2016	5140.94	145.01	4995.93
5/22/2016	5140.94	145.98	4994.96
8/23/2016	5140.94	147.01	4993.93
9/20/2016	5140.94	146.88	4994.06
10/4/2016	5140.94	146.94	4994.00
2/14/2017	5140.94	144.34	4996.60
4/10/2017	5140.94	144.02	4996.92
4/24/2017	5140.94	144.19	4996.75
5/11/2017	5140.94	144.68	4996.26
5/22/2017	5140.94	144.73	4996.21
5/25/2017	5140.94	144.78	4996.16
6/26/2017	5140.94	145.22	4995.72
7/25/2017	5140.94	145.87	4995.07
9/5/2017	5140.94	146.08	4994.86
7/30/2018	5140.94	148.62	4992.32
10/21/2019	5140.94	145.35	4995.59
4/16/2020	5140.94	NM	
10/20/2020	5140.94	145.48	4995.46
4/12/2021	5140.94	143.65	4997.29
10/23/2021	5140.94	143.88	4997.06
4/19/2022	5140.94	142.17	4998.77

Appendix A - Groundwater Elevations and Hydrographs

M-44D			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
10/18/2022	5140.94	141.72	4999.22
4/11/2023	5140.94	139.33	5001.61
10/9/2023	5140.94	141.16	4999.78
<i>Maximum Observed:</i>			5001.61
<i>Minimum Observed:</i>			4992.32
<i>Range:</i>			9.29

Appendix A - Groundwater Elevations and Hydrographs

M-43A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
7/1/2018	5022.56	35.38	4987.18
10/21/2019	5022.56	NM	
4/15/2020	5022.56	NM	
10/20/2020	5022.56	NM	
4/12/2021	5022.56	32.91	4989.65
10/19/2021	5022.56	32.80	4989.76
4/19/2022	5022.56	30.54	4992.02
10/18/2022	5022.56	30.47	4992.09
4/11/2023	5022.56	28.28	4994.28
10/10/2023	5022.56	28.55	4994.01
<i>Maximum Observed:</i>			4994.28
<i>Minimum Observed:</i>			4987.18
<i>Range:</i>			7.10

Appendix A - Groundwater Elevations and Hydrographs

M-45A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
10/11/2012	5025.57	41.79	4983.78
9/17/2013	5025.57	41.90	4983.67
11/21/2013	5025.57	41.82	4983.75
3/26/2014	5025.57	40.7	4984.87
6/10/2014	5025.57	40.84	4984.73
6/16/2015	5025.57	40.49	4985.08
12/20/2016	5025.57	37.95	4987.62
2/22/2018	5025.57	37.18	4988.39
8/7/2018	5025.57	36.92	4988.65
10/21/2019	5025.57	36.93	4988.64
4/15/2020	5025.57	35.92	4989.65
10/20/2020	5025.57	36.36	4989.21
4/12/2021	5025.57	35.95	4989.62
10/19/2021	5025.57	35.90	4989.67
4/19/2022	5025.57	34.60	4990.97
10/18/2022	5025.57	33.54	4992.03
4/11/2023	5025.57	32.58	4992.99
10/10/2023	5025.57	32.92	4992.65
<i>Maximum Observed:</i>			4992.99
<i>Minimum Observed:</i>			4983.67
<i>Range:</i>			9.32

Appendix A - Groundwater Elevations and Hydrographs

M-46A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
2/22/2012	5025.36	27.42	4997.94
12/20/2016	5025.36	27.39	4997.97
8/7/2018	5025.36	27.04	4998.32
10/21/2019	5025.36	27.14	4998.22
4/15/2020	5025.36	26.3	4999.06
10/20/2020	5025.36	27.17	4998.19
4/12/2021	5025.36	26.24	4999.12
10/19/2021	5025.36	26.48	4998.88
4/19/2022	5025.36	25.51	4999.85
10/18/2022	5025.36	25.60	4999.76
4/11/2023	5025.36	24.66	5000.7
10/10/2023	5025.36	24.95	5000.41
<i>Maximum Observed:</i>			5000.70
<i>Minimum Observed:</i>			4997.94
<i>Range:</i>			2.76

Appendix A - Groundwater Elevations and Hydrographs

M-49A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
10/21/2019	5024.7	Dry	
4/15/2020	5024.7	Dry	
4/12/2021	5024.7	Dry	
10/19/2021	5024.7	Dry	
4/19/2022	5024.7	Dry	
10/18/2022	5024.7	Dry	
4/11/2023	5024.7	22.45	5002.25
10/9/2023	5024.7	22.45	5002.25
<i>Maximum Observed:</i>			5002.25
<i>Minimum Observed:</i>			5002.25
<i>Range:</i>			0.00

Appendix A - Groundwater Elevations and Hydrographs

M-63A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/30/2015	5021.82	40.48	4981.34
11/30/2015	5021.82	40.48	4981.34
3/7/2016	5021.82	39.23	4982.59
3/7/2016	5021.82	39.23	4982.59
5/5/2016	5021.82	38.57	4983.25
8/23/2016	5021.82	38.54	4983.28
9/20/2016	5021.82	38.37	4983.45
10/4/2016	5021.82	38.29	4983.53
2/14/2017	5021.82	36.77	4985.05
4/10/2017	5021.82	36.04	4985.78
4/24/2017	5021.82	35.92	4985.90
5/11/2017	5021.82	35.81	4986.01
5/22/2017	5021.82	35.76	4986.06
5/23/2017	5021.82	35.78	4986.04
6/26/2017	5021.82	35.93	4985.89
7/25/2017	5021.82	36.22	4985.60
9/5/2017	5021.82	36.45	4985.37
2/22/2018	5021.82	36.25	4985.57
9/10/2018	5021.82	36.84	4984.98
10/21/2019	5021.82	36.02	4985.80
4/15/2020	5021.82	34.33	4987.49
10/20/2020	5021.82	35.58	4986.24
4/12/2021	5021.82	34.26	4987.56
10/19/2021	5021.82	33.80	4988.02
4/19/2022	5021.82	31.70	4990.12
10/18/2022	5021.82	31.26	4990.56
4/11/2023	5021.82	29.52	4992.303
10/9/2023	5021.82	29.34	4992.483
<i>Maximum Observed:</i>			4992.48
<i>Minimum Observed:</i>			4981.34
<i>Range:</i>			11.14

W-124			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
6/26/2009	5037.53	45.2	4992.33
9/19/2009	5037.53	46.02	4991.51
12/16/2009	5037.53	45.26	4992.27
3/16/2010	5037.53	44.81	4992.72
6/17/2010	5037.53	45.51	4992.02
3/16/2011	5037.53	44.82	4992.71
6/21/2011	5037.53	46.62	4990.91
6/18/2015	5037.53	46.35	4991.18
8/17/2015	5037.53	47.2	4990.33
10/4/2016	5037.53	45.2	4992.33
6/6/2017	5037.53	42.99	4994.54
8/6/2018	5037.53	43.31	4994.22
9/10/2018	5037.53	43.68	4993.85
10/21/2019	5037.53	43.20	4994.33
4/16/2020	5037.53	40.21	4997.32
10/20/2020	5037.53	43.20	4994.33
4/12/2021	5037.53	40.32	4997.21
10/19/2021	5037.53	39.58	4997.95
4/19/2022	5037.53	37.98	4999.55
10/18/2022	5037.53	38.17	4999.36
4/11/2023	5037.53	35.5	5002.03
10/10/2023	5037.53	36.63	5000.90
<i>Maximum Observed:</i>			<i>5002.03</i>
<i>Minimum Observed:</i>			<i>4990.33</i>
<i>Range:</i>			<i>11.70</i>

Appendix A - Groundwater Elevations and Hydrographs

W-125			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/17/2009	5038.37	44.27	4994.10
6/26/2009	5038.37	45.00	4993.37
9/19/2009	5038.37	45.84	4992.53
12/16/2009	5038.37	45.08	4993.29
3/16/2010	5038.37	44.62	4993.75
6/17/2010	5038.37	45.34	4993.03
2/17/2011	5038.37	44.71	4993.66
3/16/2011	5038.37	44.62	4993.75
6/21/2011	5038.37	46.45	4991.92
8/7/2011	5038.37	46.72	4991.65
9/30/2011	5038.37	47.44	4990.93
12/7/2011	5038.37	46.95	4991.42
12/14/2011	5038.37	46.57	4991.80
3/15/2012	5038.37	45.97	4992.40
6/27/2012	5038.37	46.53	4991.84
9/26/2012	5038.37	47.40	4990.97
10/8/2012	5038.37	47.88	4990.49
1/27/2013	5038.37	46.64	4991.73
6/6/2013	5038.37	46.72	4991.65
6/12/2014	5038.37	46.44	4991.93
6/18/2015	5038.37	46.10	4992.27
3/7/2016	5038.37	44.56	4993.81
5/22/2016	5038.37	44.55	4993.82
8/23/2016	5038.37	45.75	4992.62
12/1/2016	5038.37	46.68	4991.69
10/21/2019	5038.37	44.09	4994.28
4/16/2020	5038.37	41.23	4997.14
10/20/2020	5038.37	44.03	4994.34
4/12/2021	5038.37	41.20	4997.17
10/19/2021	5038.37	41.43	4996.94
4/19/2022	5038.37	38.84	4999.53
10/18/2022	5038.37	38.97	4999.40

Appendix A - Groundwater Elevations and Hydrographs

W-125			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
4/11/2023	5038.37	36.57	5001.80
10/10/2023	5038.37	37.72	5000.65
			<i>Maximum Observed:</i> 4999.53
			<i>Minimum Observed:</i> 4990.49
			<i>Range:</i> 9.04

W-126			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/19/2009	5034.75	4.39	5030.36
6/26/2009	5034.75	4.73	5030.02
9/19/2009	5034.75	5.41	5029.34
12/16/2009	5034.75	4.46	5030.29
3/16/2010	5034.75	3.83	5030.92
6/25/2010	5034.75	7.35	5027.40
3/18/2011	5034.75	5.99	5028.76
6/21/2011	5034.75	7.25	5027.50
8/8/2011	5034.75	6.44	5028.31
9/30/2011	5034.75	7.91	5026.84
12/6/2011	5034.75	5.79	5028.96
12/14/2011	5034.75	5.98	5028.77
3/15/2012	5034.75	5.97	5028.78
6/27/2012	5034.75	7.66	5027.09
9/26/2012	5034.75	8.1	5026.65
10/9/2012	5034.75	7.94	5026.81
6/6/2013	5034.75	5.69	5029.06
6/11/2014	5034.75	5.74	5029.01
6/17/2015	5034.75	5.44	5029.31
8/17/2015	5034.75	5.6	5029.15
10/5/2016	5034.75	5.94	5028.81
12/21/2016	5034.75	3.78	5030.97
6/6/2017	5034.75	5.9	5028.85
7/2/2017	5034.75	6.15	5028.60
7/11/2017	5034.75	5.98	5028.77
8/21/2017	5034.75	5.98	5028.77
9/27/2017	5034.75	6.23	5028.52
10/6/2017	5034.75	6.4	5028.35
11/2/2017	5034.75	6.04	5028.71
11/16/2017	5034.75	6.6	5028.15
12/28/2017	5034.75	6.32	5028.43
1/3/2018	5034.75	6.31	5028.44
1/23/2018	5034.75	6.36	5028.39

Appendix A - Groundwater Elevations and Hydrographs

W-126			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
2/13/2018	5034.75	4.64	5030.11
3/9/2018	5034.75	4.07	5030.68
4/24/2018	5034.75	4.63	5030.12
5/6/2018	5034.75	5.88	5028.87
5/25/2018	5034.75	6.53	5028.22
6/26/2018	5034.75	7.08	5027.67
7/24/2018	5034.75	7.53	5027.22
8/6/2018	5034.75	7.92	5026.83
9/23/2018	5034.75	7.62	5027.13
10/24/2018	5034.75	6.71	5028.04
11/28/2018	5034.75	7.62	5027.13
12/5/2018	5034.75	8.06	5026.69
1/17/2019	5034.75	6.47	5028.28
2/14/2019	5034.75	6.53	5028.22
4/11/2019	5034.75	6.51	5028.24
10/21/2019	5034.75	7.71	5027.04
4/15/2020	5034.75	4.43	5030.32
10/20/2020	5034.75	7.94	5026.81
4/12/2021	5034.75	6.12	5028.63
Well abandoned June 2021			
<i>Maximum Observed:</i>			5030.97
<i>Minimum Observed:</i>			5026.65
<i>Range:</i>			4.32

Appendix A - Groundwater Elevations and Hydrographs

W-126R			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/19/2021	5030.19	5.81	5024.38
4/19/2022	5030.19	6.10	5024.09
10/18/2022	5030.19	4.42	5025.77
4/11/2023	5030.19	3.57	5026.62
10/10/2023	5030.19	7.4	5022.79
<i>Maximum Observed:</i>			5026.62
<i>Minimum Observed:</i>			5022.79
<i>Range:</i>			3.83

Appendix A - Groundwater Elevations and Hydrographs

M-52A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5049.36	19.13	5030.23
3/8/2016	5049.36	18.49	5030.87
5/5/2016	5049.36	18.28	5031.08
8/24/2016	5049.36	19.80	5029.56
9/21/2016	5049.36	20.02	5029.34
2/20/2017	5049.36	19.05	5030.31
4/11/2017	5049.36	18.81	5030.55
4/24/2017	5049.36	18.78	5030.58
5/18/2017	5049.36	18.88	5030.48
5/24/2017	5049.36	18.99	5030.37
6/29/2017	5049.36	19.91	5029.45
7/26/2017	5049.36	20.12	5029.24
9/5/2017	5049.36	20.41	5028.95
12/7/2017	5049.36	19.88	5029.48
2/13/2018	5049.36	19.46	5029.90
5/18/2018	5049.36	19.58	5029.78
10/22/2018	5049.36	19.52	5029.84
2/15/2019	5049.36	18.10	5031.26
4/15/2019	5049.36	18.28	5031.08
7/31/2019	5049.36	19.89	5029.47
10/21/2019	5049.36	19.89	5029.47
4/14/2020	5049.36	18.73	5030.63
10/19/2020	5049.36	21.01	5028.35
4/12/2021	5049.36	19.69	5029.67
10/20/2021	5049.36	20.75	5028.61
4/20/2022	5049.36	19.42	5029.94
10/18/2022	5049.36	20.23	5029.13
4/11/2023	5049.36	19.02	5030.34
10/10/2023	5049.36	21.22	5028.14
<i>Maximum Observed:</i>		<i>5031.26 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5028.14 ft AMSL</i>	
<i>Range:</i>		<i>3.12 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

M-53A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5044.68	4.49	5040.19
3/8/2016	5044.68	4.32	5040.36
5/5/2016	5044.68	4.27	5040.41
8/24/2016	5044.68	4.99	5039.69
9/21/2016	5044.68	5.19	5039.49
2/20/2017	5044.68	4.33	5040.35
4/11/2017	5044.68	4.23	5040.45
4/24/2017	5044.68	4.28	5040.40
5/18/2017	5044.68	4.49	5040.19
5/24/2017	5044.68	4.57	5040.11
6/29/2017	5044.68	5.21	5039.47
7/26/2017	5044.68	4.99	5039.69
9/5/2017	5044.68	5.28	5039.40
12/7/2017	5044.68	4.72	5039.96
2/13/2018	5044.68	4.58	5040.10
5/18/2018	5044.68	4.67	5040.01
10/22/2018	5044.68	4.67	5040.01
2/15/2019	5044.68	4.17	5040.51
4/15/2019	5044.68	4.08	5040.60
7/31/2019	5044.68	4.91	5039.77
10/21/2019	5044.68	4.85	5039.83
4/14/2020	5044.68	3.76	5040.92
10/19/2020	5044.68	5.76	5038.92
4/12/2021	5044.68	4.43	5040.25
10/20/2021	5044.68	5.01	5039.67
4/20/2022	5044.68	4.26	5040.42
10/18/2022	5044.68	4.83	5039.85
4/11/2023	5044.68	4.07	5040.61
10/10/2023	5044.68	5.8	5038.88
<i>Maximum Observed:</i>		5040.92 ft AMSL	
<i>Minimum Observed:</i>		5038.88 ft AMSL	
<i>Range:</i>		2.04 ft	

Appendix A - Groundwater Elevations and Hydrographs

M-71A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5050.15	11.93	5038.22
4/20/2022	5050.15	10.52	5039.63
10/18/2022	5050.15	11.03	5039.12
4/11/2023	5050.15	9.95	5040.20
10/10/2023	5050.15	12.16	5037.99
<i>Maximum Observed:</i>		5040.20 ft AMSL	
<i>Minimum Observed:</i>		5037.99 ft AMSL	
<i>Range:</i>		2.21 ft	

Appendix A - Groundwater Elevations and Hydrographs

M-72A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.67	30.22	5019.45
4/20/2022	5049.67	18.25	5031.42
10/18/2022	5049.67	18.67	5031.00
4/11/2023	5049.67	17.68	5031.99
10/10/2023	5049.67	18.72	5030.95
<i>Maximum Observed:</i>		<i>5031.99 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5019.45 ft AMSL</i>	
<i>Range:</i>		<i>12.54 ft</i>	

MW-73A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.19	18.59	5030.60
4/20/2022	5049.19	16.68	5032.51
10/18/2022	5049.19	17.75	5031.44
4/11/2023	5049.19	16.47	5032.72
10/10/2023	5049.19	18.50	5030.69
<i>Maximum Observed:</i>		<i>5032.72</i>	<i>ft AMSL</i>
<i>Minimum Observed:</i>		<i>5030.60</i>	<i>ft AMSL</i>
<i>Range:</i>		<i>2.12 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-74M			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.07	18.63	5030.44
4/20/2022	5049.07	17.71	5031.36
10/18/2022	5049.07	16.96	5032.11
4/11/2023	5049.07	17.27	5031.80
10/10/2023	5049.07	18.68	5030.39
<i>Maximum Observed:</i>		<i>5032.11 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5030.39 ft AMSL</i>	
<i>Range:</i>		<i>1.72 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-76A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/19/2021	5033.39	28.35	Dry
4/19/2022	5033.39	28.35	Dry
10/18/2022	5033.39	28.35	Dry
4/11/2023	5033.39	28.4	Dry
10/10/2023	5033.39	Dry	Dry
<i>Maximum Observed:</i>			<i>ft AMSL</i>
<i>Minimum Observed:</i>			<i>ft AMSL</i>
<i>Range:</i>		<i>0.00 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-77A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5031.02	37.59	4993.43
4/19/2022	5031.02	36.89	4994.13
10/18/2022	5031.02	36.62	4994.40
4/11/2023	5031.02	35.79	4995.23
10/10/2023	5031.02	35.70	4995.32
<i>Maximum Observed:</i>		4995.32 ft AMSL	
<i>Minimum Observed:</i>		4993.43 ft AMSL	
<i>Range:</i>		1.89 ft	

Appendix A - Groundwater Elevations and Hydrographs

MW-78A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5036.32	31.53	5004.79
4/20/2022	5036.32	30.65	5005.67
10/18/2022	5036.32	30.53	5005.79
4/11/2023	5036.32	29.69	5006.63
10/10/2023	5036.32	30.25	5006.07
<i>Maximum Observed:</i>		<i>5006.63</i>	<i>ft AMSL</i>
<i>Minimum Observed:</i>		<i>5004.79</i>	<i>ft AMSL</i>
<i>Range:</i>		<i>1.84 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

MW-79A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5040.30	28.51	5011.79
4/20/2022	5040.30	27.52	5012.78
10/18/2022	5040.30	27.55	5012.75
4/11/2023	5040.30	26.73	5013.57
10/10/2023	5040.30	27.66	5012.64
<i>Maximum Observed:</i>		<i>5013.57 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5011.79 ft AMSL</i>	
<i>Range:</i>		<i>1.78 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

W-305			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5046.80	19.69	5027.11
3/8/2016	5046.80	19.15	5027.65
5/5/2016	5046.80	18.97	5027.83
8/24/2016	5046.80	20.25	5026.55
9/21/2016	5046.80	20.52	5026.28
2/20/2017	5046.80	19.83	5026.97
4/11/2017	5046.80	19.61	5027.19
4/24/2017	5046.80	19.53	5027.27
5/18/2017	5046.80	19.68	5027.12
5/24/2017	5046.80	19.77	5027.03
6/29/2017	5046.80	20.47	5026.33
7/26/2017	5046.80	20.74	5026.06
9/5/2017	5046.80	20.92	5025.88
12/7/2017	5046.80	20.61	5026.19
2/13/2018	5046.80	20.22	5026.58
5/18/2018	5046.80	20.04	5026.76
10/22/2018	5046.80	19.91	5026.89
2/15/2019	5046.80	19.19	5027.61
4/15/2019	5046.80	19.03	5027.77
7/31/2019	5046.80	20.29	5026.51
10/21/2019	5046.80	20.62	5026.18
4/14/2020	5046.80	19.5	5027.30
10/19/2020	5046.80	21.46	5025.34
4/12/2021	5046.80	20.33	5026.47
10/20/2021	5046.80	21.31	5025.49
4/20/2022	5046.80	20.07	5026.73
10/18/2022	5046.80	20.73	5026.07
4/11/2023	5046.80	19.65	5027.15
10/10/2023	5046.80	21.27	5025.53
<i>Maximum Observed:</i>		<i>5027.83 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5025.34 ft AMSL</i>	
<i>Range:</i>		<i>2.49 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

W-306			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5046.74	17.50	5029.24
3/8/2016	5046.74	16.53	5030.21
5/5/2016	5046.74	16.53	5030.21
8/24/2016	5046.74	17.94	5028.80
9/21/2016	5046.74	18.27	5028.47
2/20/2017	5046.74	17.32	5029.42
4/11/2017	5046.74	17.03	5029.71
4/24/2017	5046.74	16.83	5029.91
5/18/2017	5046.74	17.07	5029.67
5/24/2017	5046.74	17.08	5029.66
6/29/2017	5046.74	17.58	5029.16
7/26/2017	5046.74	17.92	5028.82
9/5/2017	5046.74	18.22	5028.52
12/7/2017	5046.74	18.06	5028.68
2/13/2018	5046.74	17.66	5029.08
5/18/2018	5046.74	17.21	5029.53
10/22/2018	5046.74	17.81	5028.93
2/15/2019	5046.74	16.85	5029.89
4/15/2019	5046.74	16.52	5030.22
7/31/2019	5046.74	17.68	5029.06
10/21/2019	5046.74	18.2	5028.54
4/14/2020	5046.74	16.85	5029.89
10/19/2020	5046.74	18.67	5028.07
4/12/2021	5046.74	17.39	5029.35
10/20/2021	5046.74	18.56	5028.18
4/20/2022	5046.74	17.12	5029.62
10/18/2022	5046.74	18.05	5028.69
4/11/2023	5046.74	16.81	5029.93
10/10/2023	5046.74	18.36	5028.38
<i>Maximum Observed:</i>		<i>5030.22 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5028.07 ft AMSL</i>	
<i>Range:</i>		<i>2.15 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

W-314			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5051.10	8.39	5042.71
3/8/2016	5051.10	7.32	5043.78
5/5/2016	5051.10	6.97	5044.13
8/24/2016	5051.10	8.79	5042.31
9/21/2016	5051.10	9.23	5041.87
2/20/2017	5051.10	8.69	5042.41
4/11/2017	5051.10	8.52	5042.58
4/24/2017	5051.10	8.38	5042.72
5/18/2017	5051.10	8.75	5042.35
5/24/2017	5051.10	8.92	5042.18
6/29/2017	5051.10	9.84	5041.26
7/26/2017	5051.10	10.36	5040.74
9/5/2017	5051.10	10.37	5040.73
12/7/2017	5051.10	10.86	5040.24
2/13/2018	5051.10	10.43	5040.67
5/18/2018	5051.10	10.84	5040.26
10/22/2018	5051.10	11.43	5039.67
2/15/2019	5051.10	10.15	5040.95
4/15/2019	5051.10	9.47	5041.63
7/31/2019	5051.10	11.49	5039.61
10/21/2019	5051.10	12.25	5038.85
4/14/2020	5051.10	9.76	5041.34
10/19/2020	5051.10	12.97	5038.13
4/12/2021	5051.10	11.04	5040.06
10/20/2021	5051.10	13.00	5038.1
4/20/2022	5051.10	10.42	5040.68
10/18/2022	5051.10	11.07	5040.03
4/11/2023	5051.10	9.39	5041.71
10/10/2023	5051.10	11.94	5039.16
<i>Maximum Observed:</i>		<i>5044.13 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>5038.10 ft AMSL</i>	
<i>Range:</i>		<i>6.03 ft</i>	

Appendix A - Groundwater Elevations and Hydrographs

M-47A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
10/11/2012	5020.34	39.90	4980.44
3/12/2013	5020.34	40.22	4980.12
6/4/2013	5020.34	40.28	4980.06
9/17/2013	5020.34	39.97	4980.37
11/21/2013	5020.34	40.33	4980.01
3/26/2014	5020.34	39.83	4980.51
6/10/2014	5020.34	40.10	4980.24
6/16/2015	5020.34	40.20	4980.14
7/31/2019	5020.34	NM	
10/21/2019	5020.34	38.55	4981.79
4/14/2020	5020.34	37.89	4982.45
10/19/2020	5020.34	38.58	4981.76
4/12/2021	5020.34	38.22	4982.12
10/19/2021	5020.34	37.65	4982.69
4/19/2022	5020.34	36.74	4983.60
10/18/2022	5020.34	35.57	4984.77
4/11/2023	5020.34	34.32	4986.02
10/9/2023	5020.34	30.65	4989.69
<i>Maximum Observed:</i>			4989.69
<i>Minimum Observed:</i>			4980.01
<i>Range:</i>			9.69

Appendix A - Groundwater Elevations and Hydrographs

M-55A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
12/1/2015	5062.82	33.00	5029.82
3/7/2016	5062.82	32.59	5030.23
5/5/2016	5062.82	32.63	5030.19
8/23/2016	5062.82	33.17	5029.65
9/20/2016	5062.82	33.34	5029.48
2/14/2017	5062.82	33.08	5029.74
4/10/2017	5062.82	32.89	5029.93
4/24/2017	5062.82	32.84	5029.98
5/11/2017	5062.82	32.96	5029.86
5/23/2017	5062.82	33.03	5029.79
6/26/2017	5062.82	33.26	5029.56
7/25/2017	5062.82	33.46	5029.36
9/5/2017	5062.82	33.49	5029.33
2/13/2018	5062.82	33.45	5029.37
2/15/2019	5062.82	33.51	5029.31
4/15/2019	5062.82	33.36	5029.46
7/31/2019	5062.82	33.98	5028.84
10/21/2019	5062.82	34.13	5028.69
4/14/2020	5062.82	33.93	5028.89
10/19/2020	5062.82	34.45	5028.37
4/12/2021	5062.82	34.19	5028.63
10/20/2021	5062.82	34.55	5028.27
4/20/2022	5062.82	34.58	5028.24
4/11/2023	5062.82	34.74	5028.08
10/10/2023	5062.82	35.33	5027.49
<i>Maximum Observed:</i>			5030.23
<i>Minimum Observed:</i>			5027.49
<i>Range:</i>			2.74

M-69A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
4/14/2020	5050.74	17.08	5033.66
10/19/2020	5050.74	19.39	5031.35
4/12/2021	5050.74	18.03	5032.71
10/20/2021	5050.74	19.08	5031.66
4/20/2022	5050.74	17.73	5033.01
10/18/2022	5050.74	18.56	5032.18
4/11/2023	5050.74	17.33	5033.41
10/10/2023	5050.74	19.28	5031.461
<i>Maximum Observed:</i>			5033.66
<i>Minimum Observed:</i>			5031.35
<i>Range:</i>			2.31

Appendix A - Groundwater Elevations and Hydrographs

M-70M			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
4/14/2020	5051.12	20.83	5030.29
10/19/2020	5051.12	22.86	5028.26
4/12/2021	5051.12	21.70	5029.42
10/20/2021	5051.12	22.72	5028.40
4/20/2022	5051.12	21.45	5029.67
10/18/2022	5051.12	22.07	5029.05
4/11/2023	5051.12	21.07	5030.05
10/10/2023	5051.12	22.76	5028.359
<i>Maximum Observed:</i>			5030.29
<i>Minimum Observed:</i>			5028.26
<i>Range:</i>			2.03

W-227			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
4/15/2020	5125.12	31.02	5094.1
10/19/2020	5125.12	35.51	5089.61
4/12/2021	5125.12	33.95	5091.17
10/19/2021	5125.12	33.38	5091.74
4/20/2022	5125.12	31.24	5093.88
10/18/2022	5125.12	33.68	5091.44
4/11/2023	5125.12	33	5092.12
10/10/2023	5125.12	34.39	5090.73
<i>Maximum Observed:</i>			5094.10
<i>Minimum Observed:</i>			5089.61
<i>Range:</i>			4.49

W-301			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/24/2009	5033.68	30.16	5003.52
6/23/2009	5033.68	30.31	5003.37
9/18/2009	5033.68	30.72	5002.96
12/9/2009	5033.68	30.66	5003.02
3/15/2010	5033.68	30.48	5003.20
6/17/2010	5033.68	30.59	5003.09
9/16/2010	5033.68	30.95	5002.73
11/18/2010	5033.68	30.77	5002.91
3/15/2011	5033.68	30.43	5003.25
6/20/2011	5033.68	30.54	5003.14
8/10/2011	5033.68	30.9	5002.78
9/7/2011	5033.68	31.05	5002.63
9/28/2011	5033.68	31.03	5002.65
12/12/2011	5033.68	30.91	5002.77
3/15/2012	5033.68	30.78	5002.90
6/25/2012	5033.68	31.13	5002.55
9/25/2012	5033.68	30.4	5003.28
10/10/2012	5033.68	31.43	5002.25
6/3/2013	5033.68	31.17	5002.51
6/9/2014	5033.68	31.12	5002.56
6/15/2015	5033.68	31.19	5002.49
8/17/2015	5033.68	31.46	5002.22
2/15/2019	5033.68	30.58	5003.10
4/15/2019	5033.68	30.76	5002.92
7/31/2019	5033.68	31.05	5002.63
10/21/2019	5033.68	31.26	5002.42
4/14/2020	5033.68	31.78	5001.90
10/19/2020	5033.68	31.51	5002.17
4/12/2021	5033.68	31.19	5002.49
10/20/2021	5033.68	31.64	5002.04
4/20/2022	5033.68	31.07	5002.61
10/18/2022	5033.68	31.19	5002.49
4/11/2023	5033.68	30.5	5003.18
10/10/2023	5033.68	31	5002.68
<i>Maximum Observed:</i>			5003.52
<i>Minimum Observed:</i>			5001.90
<i>Range:</i>			1.62

W-302			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/24/2009	5036.42	32.33	5004.09
6/22/2009	5036.42	32.31	5004.11
9/18/2009	5036.42	32.55	5003.87
12/9/2009	5036.42	32.63	5003.79
3/15/2010	5036.42	32.61	5003.81
6/17/2010	5036.42	32.58	5003.84
9/16/2010	5036.42	32.77	5003.65
11/18/2010	5036.42	32.81	5003.61
3/16/2011	5036.42	32.61	5003.81
6/20/2011	5036.42	32.51	5003.91
8/10/2011	5036.42	32.71	5003.71
9/7/2011	5036.42	32.85	5003.57
9/28/2011	5036.42	32.87	5003.55
12/12/2011	5036.42	32.91	5003.51
3/15/2012	5036.42	32.89	5003.53
6/25/2012	5036.42	32.92	5003.50
9/25/2012	5036.42	33.09	5003.33
10/8/2012	5036.42	33.15	5003.27
6/4/2013	5036.42	33.16	5003.26
6/9/2014	5036.42	33.03	5003.39
6/15/2015	5036.42	33.06	5003.36
8/17/2015	5036.42	33.23	5003.19
2/15/2019	5036.42	32.39	5004.03
4/15/2019	5036.42	32.51	5003.91
7/31/2019	5036.42	32.52	5003.90
10/21/2019	5036.42	32.71	5003.71
4/14/2020	5036.42	32.50	5003.92
10/19/2020	5036.42	32.89	5003.53
4/12/2021	5036.42	32.81	5003.61
10/20/2021	5036.42	33.12	5003.3
4/20/2022	5036.42	32.72	5003.70
10/18/2022	5036.42	32.80	5003.62
4/11/2023	5036.42	32.33	5004.09
10/10/2023	5036.42	32.41	5004.01
<i>Maximum Observed:</i>			5004.11
<i>Minimum Observed:</i>			5003.19
<i>Range:</i>			0.92

W-303			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/24/2009	5039.70	15.89	5023.81
6/23/2009	5039.70	16.32	5023.38
9/15/2009	5039.70	17.22	5022.48
12/9/2009	5039.70	16.48	5023.22
3/15/2010	5039.70	16.33	5023.37
6/15/2010	5039.70	16.71	5022.99
9/16/2010	5039.70	17.33	5022.37
11/18/2010	5039.70	16.75	5022.95
3/15/2011	5039.70	16.04	5023.66
6/20/2011	5039.70	16.78	5022.92
8/10/2011	5039.70	17.29	5022.41
9/7/2011	5039.70	17.55	5022.15
9/28/2011	5039.70	17.3	5022.40
12/12/2011	5039.70	16.44	5023.26
3/15/2012	5039.70	16.65	5023.05
6/25/2012	5039.70	17.61	5022.09
9/25/2012	5039.70	17.82	5021.88
10/8/2012	5039.70	17.95	5021.75
6/4/2013	5039.70	17.34	5022.36
6/9/2014	5039.70	17.47	5022.23
6/15/2015	5039.70	17.54	5022.16
8/17/2015	5039.70	17.49	5022.21
7/31/2019	5039.70	NM	
10/21/2019	5039.70	18.12	5021.58
4/14/2020	5039.70	17.27	5022.43
10/19/2020	5039.70	18.88	5020.82
4/12/2021	5039.70	17.55	5022.15
10/20/2021	5039.70	18.5	5021.2
4/20/2022	5039.70	17.54	5022.16
10/18/2022	5039.70	20.19	5019.51
4/11/2023	5039.70	17.26	5022.44
10/10/2023	5039.70	18.5	5021.2
<i>Maximum Observed:</i>			5023.81
<i>Minimum Observed:</i>			5019.51
<i>Range:</i>			4.30

W-304			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/24/2009	5038.60	24.61	5013.99
6/22/2009	5038.60	24.8	5013.80
9/18/2009	5038.60	25.67	5012.93
12/9/2009	5038.60	25.34	5013.26
3/15/2010	5038.60	25.04	5013.56
6/17/2010	5038.60	25.21	5013.39
9/16/2010	5038.60	25.73	5012.87
11/18/2010	5038.60	25.23	5013.37
3/16/2011	5038.60	24.83	5013.77
6/20/2011	5038.60	25.08	5013.52
8/10/2011	5038.60	25.7	5012.90
9/7/2011	5038.60	25.9	5012.70
9/28/2011	5038.60	25.95	5012.65
12/7/2011	5038.60	25.7	5012.90
12/12/2011	5038.60	25.58	5013.02
3/15/2012	5038.60	25.29	5013.31
6/25/2012	5038.60	25.79	5012.81
9/25/2012	5038.60	26.32	5012.28
10/10/2012	5038.60	26.36	5012.24
6/5/2013	5038.60	25.82	5012.78
6/11/2014	5038.60	25.64	5012.96
6/17/2015	5038.60	25.83	5012.77
8/17/2015	5038.60	26.3	5012.30
2/15/2019	5038.60	24.82	5013.78
4/15/2019	5038.60	25.09	5013.51
7/31/2019	5038.60	25.97	5012.63
10/21/2019	5038.60	26.4	5012.20
4/14/2020	5038.60	25.75	5012.85
10/19/2020	5038.60	27.02	5011.58
4/12/2021	5038.60	26.34	5012.26
10/20/2021	5038.60	27.19	5011.41
4/20/2022	5038.60	26.34	5012.26
10/18/2022	5038.60	26.46	5012.14
4/11/2023	5038.60	25.63	5012.97
10/10/2023	5038.60	26.87	5011.73
<i>Maximum Observed:</i>			5013.99
<i>Minimum Observed:</i>			5011.41
<i>Range:</i>			2.58

W-307			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
3/24/2009	5045.22	19.92	5025.30
6/22/2009	5045.22	20.21	5025.01
9/18/2009	5045.22	21.44	5023.78
12/9/2009	5045.22	20.91	5024.31
3/15/2010	5045.22	20.45	5024.77
6/17/2010	5045.22	20.78	5024.44
3/16/2011	5045.22	20.28	5024.94
6/20/2011	5045.22	20.63	5024.59
8/8/2011	5045.22	20.42	5024.80
9/28/2011	5045.22	21.79	5023.43
12/12/2011	5045.22	21.17	5024.05
3/15/2012	5045.22	20.65	5024.57
6/25/2012	5045.22	21.49	5023.73
9/25/2012	5045.22	22.22	5023.00
10/10/2012	5045.22	22.28	5022.94
6/3/2013	5045.22	21.51	5023.71
6/11/2014	5045.22	21.25	5023.97
6/17/2015	5045.22	21.49	5023.73
8/17/2015	5045.22	21.62	5023.60
10/5/2016	5045.22	22.25	5022.97
6/6/2017	5045.22	21.73	5023.49
11/7/2018	5045.22	20.74	5024.48
12/7/2018	5045.22	20.68	5024.54
2/15/2019	5045.22	20.64	5024.58
4/15/2019	5045.22	20.93	5024.29
7/31/2019	5045.22	22.19	5023.03
10/21/2019	5045.22	22.76	5022.46
4/14/2020	5045.22	21.94	5023.28
10/19/2020	5045.22	23.62	5021.60
4/12/2021	5045.22	22.8	5022.42
WELL ABANDONED			
<i>Maximum Observed:</i>			5025.30
<i>Minimum Observed:</i>			5021.60
<i>Range:</i>			3.70

Appendix A - Groundwater Elevations and Hydrographs

W-307R			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
10/20/2021	5045.1	23.19	5021.91
4/20/2022	5045.1	22.11	5022.99
10/18/2022	5045.1	22.41	5022.69
4/11/2023	5045.1	21.65	5023.45
10/10/2023	5045.1	23.1	5022.00
<i>Maximum Observed:</i>			5023.45
<i>Minimum Observed:</i>			5021.91
<i>Range:</i>			1.54

Appendix A - Groundwater Elevations and Hydrographs

W-308			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5051.54	21.55	5029.99
6/22/2009	5051.54	21.49	5030.05
9/18/2009	5051.54	22.51	5029.03
12/9/2009	5051.54	22.36	5029.18
3/15/2010	5051.54	22.11	5029.43
6/17/2010	5051.54	22.04	5029.50
9/16/2010	5051.54	22.88	5028.66
11/18/2010	5051.54	22.59	5028.95
3/16/2011	5051.54	21.93	5029.61
6/20/2011	5051.54	21.94	5029.60
8/8/2011	5051.54	22.59	5028.95
9/28/2011	5051.54	22.91	5028.63
12/12/2011	5051.54	22.43	5029.11
3/15/2012	5051.54	22.21	5029.33
6/25/2012	5051.54	22.51	5029.03
9/25/2012	5051.54	23.17	5028.37
10/10/2012	5051.54	23.25	5028.29
6/5/2013	5051.54	22.56	5028.98
6/11/2014	5051.54	22.34	5029.20
6/17/2015	5051.54	22.39	5029.15
8/17/2015	5051.54	22.81	5028.73
10/20/2016	5051.54	23.19	5028.35
6/6/2017	5051.54	22.81	5028.73
11/7/2018	5051.54	23.44	5028.10
12/7/2018	5051.54	23.09	5028.45
2/15/2019	5051.54	22.98	5028.56
4/15/2019	5051.54	23.14	5028.40
7/31/2019	5051.54	23.98	5027.56
10/21/2019	5051.54	24.37	5027.17
4/14/2020	5051.54	23.87	5027.67
10/19/2020	5051.54	24.90	5026.64
4/12/2021	5051.54	24.59	5026.95
10/20/2021	5051.54	25.47	5026.07

Appendix A - Groundwater Elevations and Hydrographs

W-308			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
4/20/2022	5051.54	24.78	5026.76
10/18/2022	5051.54	25.23	5026.31
4/11/2023	5051.54	24.51	5027.03
10/10/2023	5051.54	25.56	5025.98
<i>Maximum Observed:</i>			5030.05
<i>Minimum Observed:</i>			5025.98
<i>Range:</i>			4.07

W-309			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5062.01	31.25	5030.76
6/22/2009	5062.01	31.2	5030.81
9/18/2009	5062.01	31.75	5030.26
12/9/2009	5062.01	31.77	5030.24
3/15/2010	5062.01	31.68	5030.33
6/17/2010	5062.01	31.57	5030.44
3/16/2011	5062.01	31.72	5030.29
6/20/2011	5062.01	31.64	5030.37
8/8/2011	5062.01	32.03	5029.98
9/28/2011	5062.01	32.26	5029.75
12/12/2011	5062.01	32.02	5029.99
3/15/2012	5062.01	31.98	5030.03
6/25/2012	5062.01	31.96	5030.05
9/25/2012	5062.01	32.36	5029.65
10/11/2012	5062.01	32.45	5029.56
6/5/2013	5062.01	31.97	5030.04
6/17/2015	5062.01	31.83	5030.18
8/17/2015	5062.01	32.05	5029.96
10/20/2016	5062.01	32.28	5029.73
6/6/2017	5062.01	32.09	5029.92
11/23/2018	5062.01	32.84	5029.17
12/7/2018	5062.01	32.83	5029.18
2/15/2019	5062.01	32.60	5029.41
4/15/2019	5062.01	32.83	5029.18
7/31/2019	5062.01	33.33	5028.68
10/21/2019	5062.01	33.49	5028.52
4/18/2020	5062.01	33.39	5028.62
10/18/2020	5062.01	33.94	5028.07
4/12/2021	5062.01	33.79	5028.22
10/20/2021	5062.01	34.42	5027.59
4/20/2022	5062.01	34.14	5027.87

Appendix A - Groundwater Elevations and Hydrographs

W-309			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
4/11/2023	5062.01	34.28	5027.73
10/10/2023	5062.01	34.77	5027.24
<i>Maximum Observed:</i>			5030.81
<i>Minimum Observed:</i>			5027.24
<i>Range:</i>			3.57

Appendix A - Groundwater Elevations and Hydrographs

W-310			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5050.61	90.28	4960.33
6/23/2009	5050.61	91.43	4959.18
9/15/2009	5050.61	91.95	4958.66
12/9/2009	5050.61	90.58	4960.03
3/15/2010	5050.61	90.31	4960.30
6/15/2010	5050.61	91.13	4959.48
3/15/2011	5050.61	90.23	4960.38
6/23/2011	5050.61	93.92	4956.69
8/9/2011	5050.61	93.05	4957.56
12/7/2011	5050.61	92.65	4957.96
10/11/2012	5050.61	95.17	4955.44
6/3/2013	5050.61	95.8	4954.81
6/15/2015	5050.61	94.23	4956.38
8/17/2015	5050.61	94.25	4956.36
10/20/2016	5050.61	90.97	4959.64
6/6/2017	5050.61	89.47	4961.14
11/25/2018	5050.61	88.29	4962.32
4/14/2020	5050.61	87.38	4963.23
10/19/2020	5050.61	88.68	4961.93
4/12/2021	5050.61	89.47	4961.14
10/20/2021	5050.61	87.69	4962.92
4/20/2022	5050.61	86.63	4963.98
10/18/2022	5050.61	84.94	4965.67
4/11/2023	5050.61	82.73	4967.88
10/10/2023	5050.61	98.1	4952.51
<i>Maximum Observed:</i>			4967.88
<i>Minimum Observed:</i>			4952.51
<i>Range:</i>			15.37

Appendix A - Groundwater Elevations and Hydrographs

W-311			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5050.03	88.87	4961.16
6/23/2009	5050.03	89.99	4960.04
9/15/2009	5050.03	90.72	4959.31
12/9/2009	5050.03	89.31	4960.72
3/15/2010	5050.03	89.04	4960.99
6/15/2010	5050.03	89.94	4960.09
11/11/2010	5050.03	89.27	4960.76
2/17/2011	5050.03	89.68	4960.35
3/15/2011	5050.03	88.93	4961.1
6/23/2011	5050.03	92.61	4957.42
8/9/2011	5050.03	91.62	4958.41
10/11/2012	5050.03	93.91	4956.12
6/3/2013	5050.03	94.6	4955.43
6/9/2014	5050.03	93.3	4956.73
6/15/2015	5050.03	92.92	4957.11
10/2/2016	5050.03	89.76	4960.27
11/25/2018	5050.03	87.01	4963.02
7/31/2019	5050.03	NM	
10/21/2019	5050.03	87.94	4962.09
4/14/2020	5050.03	86.01	4964.02
10/19/2020	5050.03	87.34	4962.69
4/12/2021	5050.03	88.15	4961.88
10/20/2021	5050.03	86.35	4963.68
4/20/2022	5050.03	85.25	4964.78
10/18/2022	5050.03	83.57	4966.46
4/11/2023	5050.03	81.34	4968.69
10/10/2023	5050.03	84.75	4965.28
<i>Maximum Observed:</i>			4968.69
<i>Minimum Observed:</i>			4955.43
<i>Range:</i>			13.26

Appendix A - Groundwater Elevations and Hydrographs

W-312			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5052.01	67.01	4985.00
6/23/2009	5052.01	66.82	4985.19
9/15/2009	5052.01	119.62	4932.39
12/9/2009	5052.01	72.08	4979.93
3/15/2010	5052.01	67.65	4984.36
6/15/2010	5052.01	67.39	4984.62
11/10/2010	5052.01	67.9	4984.11
3/15/2011	5052.01	67.76	4984.25
6/22/2011	5052.01	67.66	4984.35
8/8/2011	5052.01	67.3	4984.71
10/10/2012	5052.01	68.68	4983.33
6/4/2013	5052.01	69.45	4982.56
6/10/2014	5052.01	67.74	4984.27
6/15/2015	5052.01	64.51	4987.50
8/16/2015	5052.01	64.19	4987.82
10/5/2016	5052.01	65.81	4986.20
6/6/2017	5052.01	65.92	4986.09
9/23/2018	5052.01	66.59	4985.42
4/14/2020	5052.01	67.08	4984.93
10/19/2020	5052.01	67.37	4984.64
4/12/2021	5052.01	67.60	4984.41
10/27/2021	5052.01	67.77	4984.24
4/20/2022	5052.01	67.65	4984.36
10/18/2022	5052.01	67.60	4984.41
4/11/2023	5052.01	67.23	4984.78
10/10/2023	5052.01	67.03	4984.98
<i>Maximum Observed:</i>			4987.82
<i>Minimum Observed:</i>			4932.39
<i>Range:</i>			55.43

Appendix A - Groundwater Elevations and Hydrographs

W-313			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
3/24/2009	5051.32	92.12	4959.2
6/23/2009	5051.32	93.15	4958.17
9/15/2009	5051.32	94.21	4957.11
12/9/2009	5051.32	92.56	4958.76
3/15/2010	5051.32	92.42	4958.9
6/15/2010	5051.32	93.03	4958.29
11/10/2010	5051.32	91.95	4959.37
2/17/2011	5051.32	92.64	4958.68
3/15/2011	5051.32	92.05	4959.27
6/22/2011	5051.32	95.08	4956.24
8/8/2011	5051.32	94.76	4956.56
10/10/2012	5051.32	97.12	4954.2
6/4/2013	5051.32	97.33	4953.99
6/10/2014	5051.32	96.31	4955.01
6/16/2015	5051.32	96.16	4955.16
8/17/2015	5051.32	96.62	4954.7
10/5/2016	5051.32	95.39	4955.93
6/6/2017	5051.32	92.18	4959.14
9/23/2018	5051.32	94.07	4957.25
7/31/2019	5051.32	NM	
10/21/2019	5051.32	92.26	4959.06
4/14/2020	5051.32	90.17	4961.15
10/19/2020	5051.32	91.51	4959.81
4/12/2021	5051.32	91.47	4959.85
10/27/2021	5051.32	90.23	4961.09
4/20/2022	5051.32	89.75	4961.57
10/18/2022	5051.32	88.19	4963.13
4/11/2023	5051.32	85.53	4965.79
10/10/2023	5051.32	89.06	4962.26
<i>Maximum Observed:</i>			4965.79
<i>Minimum Observed:</i>			4953.99
<i>Range:</i>			11.80

Appendix A - Groundwater Elevations and Hydrographs

W-317			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
2/22/2012	5022.27	41.17	4981.10
10/11/2012	5022.27	41.84	4980.43
3/12/2013	5022.27	42.12	4980.15
6/4/2013	5022.27	42.18	4980.09
9/17/2013	5022.27	41.89	4980.38
11/21/2013	5022.27	42.25	4980.02
3/26/2014	5022.27	41.71	4980.56
6/16/2015	5022.27	42.02	4980.25
12/20/2016	5022.27	41.4	4980.87
4/15/2019	5022.27	39.59	4982.68
7/31/2019	5022.27	39.92	4982.35
10/21/2019	5022.27	40.26	4982.01
4/14/2020	5022.27	39.52	4982.75
10/19/2020	5022.27	39.71	4982.56
4/12/2021	5022.27	39.78	4982.49
10/19/2021	5022.27	39.29	4982.98
4/19/2022	5022.27	38.25	4984.02
10/18/2022	5022.27	37.24	4985.03
4/11/2023	5022.27	35.96	4986.31
10/9/2023	5022.27	35.61	4986.66
<i>Maximum Observed:</i>			4986.66
<i>Minimum Observed:</i>			4980.02
<i>Range:</i>			6.64

Appendix A - Groundwater Elevations and Hydrographs

M-64A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
6/29/2017	4991.90	27.39	4964.51
12/7/2017	4991.90	25.18	4966.72
2/13/2018	4991.90	25.59	4966.31
5/18/2018	4991.90	25.53	4966.37
8/2/2018	4991.90	26.01	4965.89
10/22/2018	4991.90	25.75	4966.15
2/13/2019	4991.90	25.24	4966.66
4/15/2019	4991.90	24.89	4967.01
7/31/2019	4991.90	25.46	4966.44
10/21/2019	4991.90	25.81	4966.09
4/15/2020	4991.90	25.35	4966.55
10/20/2020	4991.90	26.27	4965.63
4/12/2021	4991.90	25.92	4965.98
10/19/2021	4991.90	25.39	4966.51
4/20/2022	4991.90	25.16	4966.74
10/18/2022	4991.90	24.93	4966.97
4/11/2023	4991.90	24.35	4967.55
10/10/2023	4991.90	25.15	4966.75
<i>Maximum Observed:</i>		4967.55 ft AMSL	
<i>Minimum Observed:</i>		4964.51 ft AMSL	
<i>Range:</i>		3.04 ft	

M-54			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/30/2015	5070.71	127.99	4942.72
3/8/2016	5070.71	125.69	4945.02
5/5/2016	5070.71	127.73	4942.98
8/24/2016	5070.71	128.52	4942.19
9/21/2016	5070.71	128.46	4942.25
2/20/2017	5070.71	124.13	4946.58
4/11/2017	5070.71	124.72	4945.99
4/24/2017	5070.71	125.37	4945.34
5/18/2017	5070.71	126.04	4944.67
5/24/2017	5070.71	126.10	4944.61
6/29/2017	5070.71	126.42	4944.29
7/26/2017	5070.71	127.53	4943.18
9/5/2017	5070.71	127.89	4942.82
12/7/2017	5070.71	124.96	4945.75
5/18/2018	5070.71	126.71	4944.00
10/22/2018	5070.71	126.54	4944.17
4/8/2019	5070.71	124.91	4945.80
10/22/2019	5070.71	126.57	4944.14
4/14/2020	5070.71	123.80	4946.91
10/19/2020	5070.71	125.32	4945.39
4/12/2021	5070.71	124.53	4946.18
10/19/2021	5070.71	125.44	4945.27
4/20/2022	5070.71	123.70	4947.01
10/18/2022	5070.71	122.93	4947.78
4/11/2023	5070.71	119.69	4951.02
10/10/2023	5070.71	123.45	4947.26
<i>Maximum Observed:</i>		4951.02 ft AMSL	
<i>Minimum Observed:</i>		4942.19 ft AMSL	
<i>Range:</i>		8.83 ft	

Appendix A - Groundwater Elevations and Hydrographs

M-59			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5136.00	197.78	4938.22
3/8/2016	5136.00	195.67	4940.33
5/5/2016	5136.00	197.83	4938.17
8/24/2016	5136.00	198.71	4937.29
9/21/2016	5136.00	198.62	4937.38
2/20/2017	5136.00	194.12	4941.88
4/11/2017	5136.00	194.83	4941.17
4/24/2017	5136.00	195.54	4940.46
5/18/2017	5136.00	196.28	4939.72
5/24/2017	5136.00	196.28	4939.72
6/29/2017	5136.00	196.72	4939.28
7/26/2017	5136.00	197.75	4938.25
9/5/2017	5136.00	198.15	4937.85
12/7/2017	5136.00	195.11	4940.89
5/18/2018	5136.00	196.97	4939.03
10/22/2018	5136.00	196.59	4939.41
4/8/2019	5136.00	195.13	4940.87
10/22/2019	5136.00	196.78	4939.22
4/14/2020	5136.00	193.97	4942.03
10/19/2020	5136.00	195.42	4940.58
4/12/2021	5136.00	194.67	4941.33
10/19/2021	5136.00	195.56	4940.44
4/20/2022	5136.00	193.86	4942.14
10/18/2022	5136.00	193.06	4942.94
4/11/2023	5136.00	189.74	4946.26
10/10/2023	5136.00	193.64	4942.36
<i>Maximum Observed:</i>		4946.26 ft AMSL	
<i>Minimum Observed:</i>		4937.29 ft AMSL	
<i>Range:</i>		8.97 ft	

Appendix A - Groundwater Elevations and Hydrographs

M-60			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/30/2015	5151.18	226.92	4924.26
3/8/2016	5151.18	224.78	4926.40
5/5/2016	5151.18	226.71	4924.47
8/24/2016	5151.18	227.51	4923.67
9/21/2016	5151.18	227.61	4923.57
2/20/2017	5151.18	223.39	4927.79
4/11/2017	5151.18	224.02	4927.16
4/24/2017	5151.18	224.64	4926.54
5/18/2017	5151.18	225.28	4925.90
5/24/2017	5151.18	225.28	4925.90
6/29/2017	5151.18	225.73	4925.45
7/26/2017	5151.18	226.69	4924.49
9/5/2017	5151.18	227.09	4924.09
12/7/2017	5151.18	224.58	4926.60
5/18/2018	5151.18	225.91	4925.27
10/22/2018	5151.18	225.98	4925.20
4/8/2019	5151.18	224.19	4926.99
10/22/2019	5151.18	226.32	4924.86
4/15/2020	5151.18	223.12	4928.06
10/19/2020	5151.18	224.76	4926.42
4/12/2021	5151.18	223.76	4927.42
10/19/2021	5151.18	225.08	4926.10
4/20/2022	5151.18	223.26	4927.92
10/18/2022	5151.18	223.22	4927.96
4/11/2023	5151.18	219.64	4931.54
10/10/2023	5151.18	223.4	4927.78
<i>Maximum Observed:</i>		4931.54 ft AMSL	
<i>Minimum Observed:</i>		4923.57 ft AMSL	
<i>Range:</i>		7.97 ft	

Appendix A - Groundwater Elevations and Hydrographs

M-61			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	CW Elevation [ft AMSL]
11/30/2015	5127.58	195.93	4931.65
3/8/2016	5127.58	193.88	4933.70
5/5/2016	5127.58	196.05	4931.53
8/24/2016	5127.58	196.84	4930.74
9/21/2016	5127.58	196.87	4930.71
2/20/2017	5127.58	192.34	4935.24
4/11/2017	5127.58	193.07	4934.51
4/24/2017	5127.58	193.75	4933.83
5/18/2017	5127.58	194.46	4933.12
5/24/2017	5127.58	194.31	4933.27
6/29/2017	5127.58	194.89	4932.69
7/26/2017	5127.58	195.91	4931.67
9/5/2017	5127.58	196.31	4931.27
12/7/2017	5127.58	193.48	4934.10
5/18/2018	5127.58	195.23	4932.35
10/22/2018	5127.58	194.99	4932.59
4/8/2019	5127.58	193.34	4934.24
10/22/2019	5127.58	195.25	4932.33
4/14/2020	5127.58	192.3	4935.28
10/19/2020	5127.58	193.73	4933.85
4/12/2021	5127.58	192.93	4934.65
10/19/2021	5127.58	194.04	4933.54
4/20/2022	5127.58	192.26	4935.32
10/18/2022	5127.58	191.86	4935.72
4/11/2023	5127.58	188.42	4939.16
10/10/2023	5127.58	192.28	4935.3
<i>Maximum Observed:</i>		<i>4939.16 ft AMSL</i>	
<i>Minimum Observed:</i>		<i>4930.71 ft AMSL</i>	
<i>Range:</i>		<i>8.45 ft</i>	

APPENDIX

B

2023 ANALYTICAL
LABORATORY REPORTS

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAM)

JOB NUMBER

550-196984-1

Eurofins Phoenix

Job Notes

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The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Authorized for release by
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(657)210-6355

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Job ID: 550-196984-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-196984-1

Comments

No additional comments.

Receipt

The samples were received on 1/30/2023 10:39 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3° C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-196984-1	CH-CCR-M54-0123	Water	01/26/23 15:39	01/30/23 10:39
550-196984-2	CH-CCR-M60-0123	Water	01/26/23 14:25	01/30/23 10:39
550-196984-3	CH-CCR-FD01-0123	Water	01/26/23 13:45	01/30/23 10:39
550-196984-4	CH-CCR-EB01-0123	Water	01/27/23 11:20	01/30/23 10:39

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Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0123

Lab Sample ID: 550-196984-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	50		mg/L	25		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	390	D2	50		mg/L	25		300.0	Total/NA

Client Sample ID: CH-CCR-M60-0123

Lab Sample ID: 550-196984-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	50		mg/L	25		300.0	Total/NA
Fluoride	1.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	380	D2	50		mg/L	25		300.0	Total/NA

Client Sample ID: CH-CCR-FD01-0123

Lab Sample ID: 550-196984-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	50		mg/L	25		300.0	Total/NA
Fluoride	1.4	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	380	D2	50		mg/L	25		300.0	Total/NA

Client Sample ID: CH-CCR-EB01-0123

Lab Sample ID: 550-196984-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	7.8		2.0		mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0123

Lab Sample ID: 550-196984-1

Date Collected: 01/26/23 15:39

Matrix: Water

Date Received: 01/30/23 10:39

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	50		mg/L			02/13/23 17:32	25
Fluoride	1.4	D1	0.80		mg/L			02/13/23 14:09	2
Sulfate	390	D2	50		mg/L			02/13/23 17:32	25

Client Sample ID: CH-CCR-M60-0123

Lab Sample ID: 550-196984-2

Date Collected: 01/26/23 14:25

Matrix: Water

Date Received: 01/30/23 10:39

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	50		mg/L			02/13/23 15:05	25
Fluoride	1.5	D1	0.80		mg/L			02/13/23 13:14	2
Sulfate	380	D2	50		mg/L			02/13/23 15:05	25

Client Sample ID: CH-CCR-FD01-0123

Lab Sample ID: 550-196984-3

Date Collected: 01/26/23 13:45

Matrix: Water

Date Received: 01/30/23 10:39

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	50		mg/L			02/13/23 17:50	25
Fluoride	1.4	D1	0.80		mg/L			02/13/23 14:28	2
Sulfate	380	D2	50		mg/L			02/13/23 17:50	25

Client Sample ID: CH-CCR-EB01-0123

Lab Sample ID: 550-196984-4

Date Collected: 01/27/23 11:20

Matrix: Water

Date Received: 01/30/23 10:39

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			02/13/23 14:46	1
Fluoride	ND		0.40		mg/L			02/13/23 14:46	1
Sulfate	7.8		2.0		mg/L			02/13/23 14:46	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-294355/2
Matrix: Water
Analysis Batch: 294355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			02/13/23 11:23	1
Fluoride	ND		0.40		mg/L			02/13/23 11:23	1
Sulfate	ND		2.0		mg/L			02/13/23 11:23	1

Lab Sample ID: LCS 550-294355/5
Matrix: Water
Analysis Batch: 294355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.29		mg/L		107	90 - 110
Sulfate	20.0	21.6		mg/L		108	90 - 110

Lab Sample ID: LCSD 550-294355/7
Matrix: Water
Analysis Batch: 294355

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	1	20
Fluoride	4.00	4.29		mg/L		107	90 - 110	0	20
Sulfate	20.0	21.0		mg/L		105	90 - 110	3	20

Lab Sample ID: 550-196984-2 MS
Matrix: Water
Analysis Batch: 294355

Client Sample ID: CH-CCR-M60-0123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.5	D1	8.00	10.1	D1	mg/L		107	80 - 120

Lab Sample ID: 550-196984-2 MS
Matrix: Water
Analysis Batch: 294355

Client Sample ID: CH-CCR-M60-0123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1400	D2	500	1910	D2	mg/L		99	80 - 120
Sulfate	380	D2	500	895	D2	mg/L		103	80 - 120

Lab Sample ID: 550-196984-2 MSD
Matrix: Water
Analysis Batch: 294355

Client Sample ID: CH-CCR-M60-0123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.5	D1	8.00	10.1	D1	mg/L		107	80 - 120	0	20

Lab Sample ID: 550-196984-2 MSD
Matrix: Water
Analysis Batch: 294355

Client Sample ID: CH-CCR-M60-0123
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1400	D2	500	1910	D2	mg/L		98	80 - 120	0	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-196984-2 MSD
 Matrix: Water
 Analysis Batch: 294355

Client Sample ID: CH-CCR-M60-0123
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	380	D2	500	897	D2	mg/L		103	80 - 120	0	20

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

HPLC/IC

Analysis Batch: 294355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-196984-1	CH-CCR-M54-0123	Total/NA	Water	300.0	
550-196984-1	CH-CCR-M54-0123	Total/NA	Water	300.0	
550-196984-2	CH-CCR-M60-0123	Total/NA	Water	300.0	
550-196984-2	CH-CCR-M60-0123	Total/NA	Water	300.0	
550-196984-3	CH-CCR-FD01-0123	Total/NA	Water	300.0	
550-196984-3	CH-CCR-FD01-0123	Total/NA	Water	300.0	
550-196984-4	CH-CCR-EB01-0123	Total/NA	Water	300.0	
MB 550-294355/2	Method Blank	Total/NA	Water	300.0	
LCS 550-294355/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-294355/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-196984-2 MS	CH-CCR-M60-0123	Total/NA	Water	300.0	
550-196984-2 MS	CH-CCR-M60-0123	Total/NA	Water	300.0	
550-196984-2 MSD	CH-CCR-M60-0123	Total/NA	Water	300.0	
550-196984-2 MSD	CH-CCR-M60-0123	Total/NA	Water	300.0	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0123

Lab Sample ID: 550-196984-1

Date Collected: 01/26/23 15:39

Matrix: Water

Date Received: 01/30/23 10:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	294355	AS1	EET PHX	02/13/23 14:09
Total/NA	Analysis	300.0		25	294355	AS1	EET PHX	02/13/23 17:32

Client Sample ID: CH-CCR-M60-0123

Lab Sample ID: 550-196984-2

Date Collected: 01/26/23 14:25

Matrix: Water

Date Received: 01/30/23 10:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	294355	AS1	EET PHX	02/13/23 13:14
Total/NA	Analysis	300.0		25	294355	AS1	EET PHX	02/13/23 15:05

Client Sample ID: CH-CCR-FD01-0123

Lab Sample ID: 550-196984-3

Date Collected: 01/26/23 13:45

Matrix: Water

Date Received: 01/30/23 10:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	294355	AS1	EET PHX	02/13/23 14:28
Total/NA	Analysis	300.0		25	294355	AS1	EET PHX	02/13/23 17:50

Client Sample ID: CH-CCR-EB01-0123

Lab Sample ID: 550-196984-4

Date Collected: 01/27/23 11:20

Matrix: Water

Date Received: 01/30/23 10:39

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	294355	AS1	EET PHX	02/13/23 14:46

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

- 1
- 2
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Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-196984-1
SDG: APS Cholla Power Plant (BAM)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



TestAmerica Phoenix

4625 E Cotton Center Blvd
 Suite 189
 Phoenix, AZ 85040
 phone 602.437.3340 fax 602.454.9303

196984

Chain of Custody Record



TestAmerica Laboratories, Inc.

2/15/2023

Client Contact

Arizona Public Service

4801 Cholla Lake Rd

Joseph City, AZ 86032

(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (BAM)

PO #: 300590307

Natalie Chrisman
 (602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Pam Norris (505) 598-8781
 Lab Contact: Rachel Sester

Other: CCR

Date:

Carrier:

COC No.: 1 of 1 COCs

Sampler:

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

Sample Specific Notes:

Low Flow

Low Flow, MS/MSD

"

Sample Identification

Sample Date

Sample Time

Sample Type (C-Comp, G-Grab)

Matrix

of Cont.

Filtered Sample (Y / N)

Perform MS / MSD (Y / N)

EPA 300.0 (Cl, F, SO4)

EPA 200.7 - Totals (B, Ca)

SM-4500-HB (pH)

SM-2540C (TDS)

CH-CCR-M54-0123

1-26-23

1534

G

W

1

N

N

X

X

X

X

X

-D1

Low Flow

CH-CCR-M60-0123

1-26-23

1425

G

W

3

N

Y

X

X

X

X

X

-D3

Low Flow, MS/MSD

CH-CCR-FD01-0123

1-27-23

1120

G

W

1

N

N

X

X

X

X

X

-D4

Low Flow, MS/MSD

CH-CCR-EB01-0123

1-27-23

1120

G

W

1

N

N

X

X

X

X

X

-D4

Low Flow, MS/MSD

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification:

Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Return to Client Disposal by Lab Archive for _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)



550-196984 Chain of Custody

Custody Seals Intact: Yes No

Custody Seal No.:

Cooler Temp. (°C): Obs'd:

Cont'd:

Therm ID No.:

Relinquished by:

Yes No

Company:

Date/Time:

Received by:

Company:

Date/Time:

Relinquished by:

Yes No

Company:

Date/Time:

Received by:

Company:

Date/Time:

Relinquished by:

Yes No

Company:

Date/Time:

Received in Laboratory by:

Company:

Date/Time:

232

FEITA PHX

1/30/23 10:39

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-196984-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 196984
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 6/8/2023 11:03:48 AM Revision 1

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (FAP)

JOB NUMBER

550-200849-1

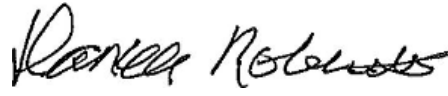
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
6/8/2023 11:03:48 AM
Revision 1

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RR	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-200849-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-200849-1

Comments

No additional comments.

Receipt

The samples were received on 4/17/2023 1:38 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.9° C, 6.4° C and 9.3° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: CH-CCR-M43A-0423 (550-200849-1), CH-CCR-M43A-0423 (550-200849-2), CH-CCR-M44D-0423 (550-200849-3), CH-CCR-M45A-0423 (550-200849-4), CH-CCR-M63A-0423 (550-200849-7), CH-CCR-M65A-0423 (550-200849-10), CH-CCR-M65A-0423 (550-200849-11) and CH-CCR-FD05-0423 (550-200849-16). This does not meet regulatory requirements.

HPLC/IC

Method 300.0: The following samples were diluted for Fluoride due to matrix interferences as well as high amounts of metals constituents: CH-CCR-M43A-0423 (550-200849-1), CH-CCR-M44D-0423 (550-200849-3), CH-CCR-M45A-0423 (550-200849-4), CH-CCR-M46A-0423 (550-200849-5), CH-CCR-M63A-0423 (550-200849-7), CH-CCR-M65A-0423 (550-200849-10), CH-CCR-M66A-0423 (550-200849-12), CH-CCR-M67A-0423 (550-200849-14) and CH-CCR-FD05-0423 (550-200849-16). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 200.7 Rev 4.4: The CCB for analytical batch 610352 contained Li above the absolute value of the reporting limit (RL). None of the samples associated with this CCB contained the target compound or were QC in target range; therefore, re-extraction and/or re-analysis of samples were not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method 353.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 280-609489 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 353.2: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 280-609489 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 550-200849-2

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-200849-2

Receipt

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-200849-2 (Continued)

Laboratory: Eurofins Phoenix (Continued)

The samples were received on 4/17/2023 1:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.9°C, 6.4°C and 9.3°C

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: CH-CCR-M43A-0423 (550-200849-1), CH-CCR-M43A-0423 (550-200849-2), CH-CCR-M44D-0423 (550-200849-3), CH-CCR-M45A-0423 (550-200849-4), CH-CCR-M63A-0423 (550-200849-7), CH-CCR-M65A-0423 (550-200849-10), CH-CCR-M65A-0423 (550-200849-11) and CH-CCR-FD05-0423 (550-200849-16). This does not meet regulatory requirements. The client was contacted regarding this issue, and the laboratory was instructed to <CHOOSE_ONE> proceed with/cancel analysis.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-200849-1	CH-CCR-M43A-0423	Water	04/15/23 10:30	04/17/23 13:38
550-200849-2	CH-CCR-M43A-0423	Water	04/15/23 10:30	04/17/23 13:38
550-200849-3	CH-CCR-M44D-0423	Water	04/13/23 11:17	04/17/23 13:38
550-200849-4	CH-CCR-M45A-0423	Water	04/15/23 11:33	04/17/23 13:38
550-200849-5	CH-CCR-M46A-0423	Water	04/15/23 13:55	04/17/23 13:38
550-200849-6	CH-CCR-M46A-0423	Water	04/15/23 13:55	04/17/23 13:38
550-200849-7	CH-CCR-M63A-0423	Water	04/15/23 08:57	04/17/23 13:38
550-200849-8	CH-CCR-W126R-0423	Water	04/15/23 17:20	04/17/23 13:38
550-200849-9	CH-CCR-W126R-0423	Water	04/15/23 17:20	04/17/23 13:38
550-200849-10	CH-CCR-M65A-0423	Water	04/15/23 12:46	04/17/23 13:38
550-200849-11	CH-CCR-M65A-0423	Water	04/15/23 12:46	04/17/23 13:38
550-200849-12	CH-CCR-M66A-0423	Water	04/15/23 16:11	04/17/23 13:38
550-200849-13	CH-CCR-M66A-0423	Water	04/15/23 16:11	04/17/23 13:38
550-200849-14	CH-CCR-M67A-0423	Water	04/15/23 15:06	04/17/23 13:38
550-200849-15	CH-CCR-M67A-0423	Water	04/15/23 15:06	04/17/23 13:38
550-200849-16	CH-CCR-FD05-0423	Water	04/15/23 16:20	04/17/23 13:38

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2200	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.2		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0036	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00013	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.44		0.050	mg/L	1		350.1	Total/NA
Total Dissolved Solids	3500		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.5		0.10	mg/L	1		200.7	Dissolved
Manganese	2.8		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.64	E4	5.0	0.63 ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M44D-0423

Lab Sample ID: 550-200849-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	100	mg/L	50		300.0	Total/NA
Sulfate	320	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.050		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	95		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.021		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	4600		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M45A-0423

Lab Sample ID: 550-200849-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	730	D2	20	mg/L	10		300.0	Total/NA
Sulfate	2400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.013		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.00081	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0028	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0054		0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.00015	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	2600		40	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M45A-0423 (Continued)

Lab Sample ID: 550-200849-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.74		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.7		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0031	E4	0.0050	0.0025 mg/L	10		200.8 LL	Total/NA
Barium	0.022		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0011	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0098		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0013	E4	0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.00013	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	1.6		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	4.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	4.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	4.6	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	4.5		0.10	mg/L	1		200.7	Dissolved
Manganese	4.9		0.010	mg/L	1		200.7	Dissolved
Cobalt	2.0	E4	5.0	0.63 ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M63A-0423

Lab Sample ID: 550-200849-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	20	mg/L	10		300.0	Total/NA
Sulfate	630	D2	20	mg/L	10		300.0	Total/NA
Lithium	0.082		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.24		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.030		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0017	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0033	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00024	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M63A-0423 (Continued)

Lab Sample ID: 550-200849-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	5.3	D1	4.0	mg/L	10		300.0	Total/NA
Sulfate	3700	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.61		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	44		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	830		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	400		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.65		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	59		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.011		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0048	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.33		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.016		0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.00021	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.36		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	73		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	73		6.0	mg/L	1		SM 2320B	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.5	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.5	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.5	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.68		0.010	mg/L	1		200.7	Dissolved
Cobalt	4.5	E4	5.0	0.63 ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2900	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2900	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.58		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	11		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.22		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.30		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.014		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0026	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.11		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-0423 (Continued)

Lab Sample ID: 550-200849-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.0067		0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Thallium	0.00014	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Ammonia	0.065		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700		100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	16.9	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.1	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.1	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.1	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.19		0.10		mg/L	1		200.7	Dissolved
Manganese	0.30		0.010		mg/L	1		200.7	Dissolved
Cobalt	2.5	E4	5.0	0.63	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	3000	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.58		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.6		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1000		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.2		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	360		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000		2.5		mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.022		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00024	E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Chromium	0.017		0.010	0.0043	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0015	E4	0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.017		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Selenium	0.011		0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Thallium	0.00018	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Ammonia	0.086		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	10000		100		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	16.9	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.0	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.0	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.0	T5	0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.13		0.10	mg/L	1		200.7	Dissolved
Manganese	3.8		0.010	mg/L	1		200.7	Dissolved
Cobalt	1.1	E4	5.0	0.63 ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	400	mg/L	200		300.0	Total/NA
Sulfate	1600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.16		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.46		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.9		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	320		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1000		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.025		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0055		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Thallium	0.00016	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.39		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5400		100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.5	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.5	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.5		0.10	mg/L	1		200.7	Dissolved
Manganese	2.0		0.010	mg/L	1		200.7	Dissolved
Cobalt	4.9	E4	5.0	0.63 ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD05-0423

Lab Sample ID: 550-200849-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	440	D2	20	mg/L	10		300.0	Total/NA
Sulfate	620	D2	20	mg/L	10		300.0	Total/NA
Lithium	0.094		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	210		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.030		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0015	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0032	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00017	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	1900		20	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-1

Date Collected: 04/15/23 10:30

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			04/18/23 18:43	200
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 18:25	10
Sulfate	2200	D2	400	mg/L			04/18/23 18:43	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:42	1
Lithium	0.21		0.020	mg/L		04/21/23 07:59	04/27/23 09:10	1
Boron	1.7		0.050	mg/L		04/19/23 06:24	04/25/23 15:42	1
Calcium	840		2.0	mg/L		04/19/23 06:24	04/25/23 15:42	1
Iron	3.2		0.10	mg/L		04/19/23 06:24	04/25/23 15:42	1
Manganese	2.9		0.010	mg/L		04/19/23 06:24	04/25/23 15:42	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:36	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:36	10
Barium	0.017		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:36	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:36	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:36	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:36	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:36	10
Molybdenum	0.0036	E4	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:36	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:11	10
Thallium	0.00013	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:36	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.44		0.050	mg/L			04/24/23 11:56	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:20	1
Total Dissolved Solids (SM 2540C)	3500		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			04/20/23 14:05	1
Temperature (SM 4500 H+ B)	14.8	H5 T5	0.1	Degrees C			04/20/23 14:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.7	T5	0.50	mg/L			04/19/23 17:31	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.7	T5	0.50	mg/L			04/19/23 17:31	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.7	T5	0.50	mg/L			04/19/23 17:31	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-2

Date Collected: 04/15/23 10:30

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.5		0.10	mg/L		04/19/23 06:10	04/28/23 19:44	1
Manganese	2.8		0.010	mg/L		04/19/23 06:10	04/28/23 19:44	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/18/23 20:49	10
Cobalt	0.64	E4	5.0	0.63	ug/L		04/25/23 04:23	05/18/23 20:49	10

Client Sample ID: CH-CCR-M44D-0423

Lab Sample ID: 550-200849-3

Date Collected: 04/13/23 11:17

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	100	mg/L			04/18/23 18:07	50
Fluoride	ND	D1 D5	0.80	mg/L			04/18/23 17:48	2
Sulfate	320	D2	100	mg/L			04/18/23 18:07	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:45	1
Lithium	0.050		0.020	mg/L		04/21/23 07:59	04/27/23 09:14	1
Boron	0.27		0.050	mg/L		04/19/23 06:24	04/25/23 15:45	1
Calcium	95		2.0	mg/L		04/19/23 06:24	04/25/23 15:45	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:38	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:38	10
Barium	0.021		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:38	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:38	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:38	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:38	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:38	10
Molybdenum	ND	E8	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:38	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:13	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:38	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	4600		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/20/23 14:06	1
Temperature (SM 4500 H+ B)	14.8	H5 T5	0.1	Degrees C			04/20/23 14:06	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M45A-0423

Lab Sample ID: 550-200849-4

Date Collected: 04/15/23 11:33

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	730	D2	20	mg/L			04/18/23 19:02	10
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 19:02	10
Sulfate	2400	D2	400	mg/L			04/18/23 19:20	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:48	1
Lithium	0.22		0.020	mg/L		04/21/23 07:59	04/27/23 09:18	1
Boron	1.2		0.050	mg/L		04/19/23 06:24	04/25/23 15:48	1
Calcium	720		2.0	mg/L		04/19/23 06:24	04/25/23 15:48	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:40	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:40	10
Barium	0.013		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:40	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:40	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:40	10
Cobalt	0.00081	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:40	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:40	10
Molybdenum	0.0028	E4	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:40	10
Selenium	0.0054		0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:15	10
Thallium	0.00015	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:40	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2600		40	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			04/20/23 14:07	1
Temperature (SM 4500 H+ B)	15.5	H5 T5	0.1	Degrees C			04/20/23 14:07	1

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-5

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5400	D2	400	mg/L			04/18/23 19:57	200
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 19:39	10
Sulfate	2600	D2	400	mg/L			04/18/23 19:57	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:57	1
Lithium	0.28		0.020	mg/L		04/21/23 07:59	04/27/23 09:22	1
Boron	0.74		0.050	mg/L		04/19/23 06:24	04/25/23 15:57	1
Calcium	1100		2.0	mg/L		04/19/23 06:24	04/25/23 15:57	1
Iron	5.7		0.10	mg/L		04/19/23 06:24	04/25/23 15:57	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-5

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	230		2.0	mg/L		04/19/23 06:24	04/25/23 15:57	1
Manganese	4.8		0.010	mg/L		04/19/23 06:24	04/25/23 15:57	1
Potassium	18		0.50	mg/L		04/19/23 06:24	04/25/23 15:57	1
Sodium	3500		2.5	mg/L		04/19/23 06:24	04/28/23 20:21	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:42	10
Arsenic	0.0031	E4	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:42	10
Barium	0.022		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:42	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:42	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:42	10
Cobalt	0.0011	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:42	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:42	10
Molybdenum	0.0098		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:42	10
Selenium	0.0013	E4	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:17	10
Thallium	0.00013	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:42	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.6		0.050	mg/L			04/24/23 11:57	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:22	1
Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			04/24/23 16:19	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:19	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			04/24/23 16:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:19	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:19	1
Total Dissolved Solids (SM 2540C)	11000		200	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			04/20/23 14:08	1
Temperature (SM 4500 H+ B)	15.6	H5 T5	0.1	Degrees C			04/20/23 14:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	4.6	T5	0.50	mg/L			04/19/23 17:43	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	4.6	T5	0.50	mg/L			04/19/23 17:43	1
Dissolved Organic Carbon - Quad (SM 5310B)	4.6	T5	0.50	mg/L			04/19/23 17:43	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-6

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.5		0.10	mg/L		04/19/23 06:10	04/28/23 19:47	1
Manganese	4.9		0.010	mg/L		04/19/23 06:10	04/28/23 19:47	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/18/23 20:51	10
Cobalt	2.0	E4	5.0	0.63	ug/L		04/25/23 04:23	05/18/23 20:51	10

Client Sample ID: CH-CCR-M63A-0423

Lab Sample ID: 550-200849-7

Date Collected: 04/15/23 08:57

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	20	mg/L			04/18/23 21:11	10
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 21:11	10
Sulfate	630	D2	20	mg/L			04/18/23 21:11	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:59	1
Lithium	0.082		0.020	mg/L		04/21/23 07:59	04/27/23 09:26	1
Boron	0.24		0.050	mg/L		04/19/23 06:24	04/25/23 15:59	1
Calcium	200		2.0	mg/L		04/19/23 06:24	04/25/23 15:59	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:50	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:50	10
Barium	0.030		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:50	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:50	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:50	10
Cobalt	0.0017	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:50	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:50	10
Molybdenum	0.0033	E4	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:50	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:19	10
Thallium	0.00024	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:50	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1100		20	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			04/20/23 14:09	1
Temperature (SM 4500 H+ B)	17.3	H5 T5	0.1	Degrees C			04/20/23 14:09	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-8

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5400	D2	400	mg/L			04/18/23 22:06	200
Fluoride	5.3	D1	4.0	mg/L			04/18/23 21:47	10
Sulfate	3700	D2	400	mg/L			04/18/23 22:06	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 16:02	1
Lithium	0.61		0.020	mg/L		04/21/23 07:59	04/27/23 09:30	1
Boron	44		0.050	mg/L		04/19/23 06:24	04/25/23 16:02	1
Calcium	830		2.0	mg/L		04/19/23 06:24	04/25/23 16:02	1
Iron	ND		0.10	mg/L		04/19/23 06:24	04/25/23 16:02	1
Magnesium	400		2.0	mg/L		04/19/23 06:24	04/25/23 16:02	1
Manganese	0.65		0.010	mg/L		04/19/23 06:24	04/25/23 16:02	1
Potassium	59		0.50	mg/L		04/19/23 06:24	04/25/23 16:02	1
Sodium	4300		5.0	mg/L		04/19/23 06:24	04/28/23 20:24	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:52	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:52	10
Barium	0.011		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:52	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:52	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:52	10
Cobalt	0.0048	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:52	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:52	10
Molybdenum	0.33		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:52	10
Selenium	0.016		0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:27	10
Thallium	0.00021	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:52	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.36		0.050	mg/L			04/24/23 11:59	1
Nitrate Nitrite as N (EPA 353.2)	ND	M2 R4	0.10	mg/L			04/20/23 12:24	1
Alkalinity as CaCO3 (SM 2320B)	73		6.0	mg/L			04/24/23 16:28	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:28	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	73		6.0	mg/L			04/24/23 16:28	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:28	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:28	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			04/20/23 14:12	1
Temperature (SM 4500 H+ B)	17.9	H5 T5	0.1	Degrees C			04/20/23 14:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.5	T5	0.50	mg/L			04/19/23 17:56	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-8

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.5	T5	0.50	mg/L			04/19/23 17:56	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.5	T5	0.50	mg/L			04/19/23 17:56	1

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-9

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/19/23 06:10	04/28/23 19:50	1
Manganese	0.68		0.010	mg/L		04/19/23 06:10	04/28/23 19:50	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/19/23 07:55	10
Cobalt	4.5	E4	5.0	0.63	ug/L		04/25/23 04:23	05/19/23 07:55	10

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-10

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2900	D2	400	mg/L			04/18/23 22:43	200
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 22:24	10
Sulfate	2900	D2	400	mg/L			04/18/23 22:43	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 16:05	1
Lithium	0.58		0.020	mg/L		04/21/23 07:59	04/27/23 09:34	1
Boron	11		0.050	mg/L		04/19/23 06:24	04/25/23 16:05	1
Calcium	820		2.0	mg/L		04/19/23 06:24	04/25/23 16:05	1
Iron	0.22		0.10	mg/L		04/19/23 06:24	04/25/23 16:05	1
Magnesium	300		2.0	mg/L		04/19/23 06:24	04/25/23 16:05	1
Manganese	0.30		0.010	mg/L		04/19/23 06:24	04/25/23 16:05	1
Potassium	30		0.50	mg/L		04/19/23 06:24	04/25/23 16:05	1
Sodium	2100		2.5	mg/L		04/19/23 06:24	04/28/23 20:26	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:54	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:54	10
Barium	0.014		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:54	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:54	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:54	10
Cobalt	0.0026	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:54	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:54	10
Molybdenum	0.11		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:54	10
Selenium	0.0067		0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:29	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-10

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.00014	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:54	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.065		0.050	mg/L			04/24/23 12:00	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:42	1
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/24/23 16:34	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:34	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/24/23 16:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:34	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:34	1
Total Dissolved Solids (SM 2540C)	8700		100	mg/L			04/20/23 14:28	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/20/23 14:14	1
Temperature (SM 4500 H+ B)	16.9	H5 T5	0.1	Degrees C			04/20/23 14:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.1	T5	0.50	mg/L			04/19/23 18:09	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.1	T5	0.50	mg/L			04/19/23 18:09	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.1	T5	0.50	mg/L			04/19/23 18:09	1

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-11

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.19		0.10	mg/L		04/19/23 06:10	04/28/23 19:52	1
Manganese	0.30		0.010	mg/L		04/19/23 06:10	04/28/23 19:52	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/19/23 07:57	10
Cobalt	2.5	E4	5.0	0.63	ug/L		04/25/23 04:23	05/19/23 07:57	10

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4100	D2	400	mg/L			04/18/23 23:19	200
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 23:01	10

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3000	D2	400	mg/L			04/18/23 23:19	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 16:08	1
Lithium	0.58		0.020	mg/L		04/21/23 07:59	04/27/23 09:38	1
Boron	2.6		0.050	mg/L		04/19/23 06:24	04/25/23 16:08	1
Calcium	1000		2.0	mg/L		04/19/23 06:24	04/25/23 16:08	1
Iron	2.2		0.10	mg/L		04/19/23 06:24	04/25/23 16:08	1
Magnesium	360		2.0	mg/L		04/19/23 06:24	04/25/23 16:08	1
Manganese	3.9		0.010	mg/L		04/19/23 06:24	04/25/23 16:08	1
Potassium	11		0.50	mg/L		04/19/23 06:24	04/25/23 16:08	1
Sodium	3000		2.5	mg/L		04/19/23 06:24	04/28/23 20:29	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:56	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:56	10
Barium	0.022		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:56	10
Cadmium	0.00024	E4	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:56	10
Chromium	0.017		0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:56	10
Cobalt	0.0015	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:56	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:56	10
Molybdenum	0.017		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:56	10
Selenium	0.011		0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:31	10
Thallium	0.00018	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:56	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.086		0.050	mg/L			04/24/23 12:02	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:44	1
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/24/23 16:42	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/24/23 16:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:42	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:42	1
Total Dissolved Solids (SM 2540C)	10000		100	mg/L			04/20/23 14:28	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			04/20/23 14:20	1
Temperature (SM 4500 H+ B)	16.9	H5 T5	0.1	Degrees C			04/20/23 14:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.0	T5	0.50	mg/L			04/19/23 18:21	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.0	T5	0.50	mg/L			04/19/23 18:21	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.0	T5	0.50	mg/L			04/19/23 18:21	1

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-13

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.13		0.10	mg/L		04/19/23 06:10	04/28/23 19:55	1
Manganese	3.8		0.010	mg/L		04/19/23 06:10	04/28/23 19:55	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/19/23 07:59	10
Cobalt	1.1	E4	5.0	0.63	ug/L		04/25/23 04:23	05/19/23 07:59	10

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-14

Date Collected: 04/15/23 15:06

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	400	mg/L			04/18/23 23:56	200
Fluoride	ND	D1 D5	4.0	mg/L			04/18/23 23:38	10
Sulfate	1600	D2	400	mg/L			04/18/23 23:56	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 16:11	1
Lithium	0.16		0.020	mg/L		04/21/23 07:59	04/27/23 09:42	1
Boron	0.46		0.050	mg/L		04/19/23 06:24	04/25/23 16:11	1
Calcium	750		2.0	mg/L		04/19/23 06:24	04/25/23 16:11	1
Iron	2.9		0.10	mg/L		04/19/23 06:24	04/25/23 16:11	1
Magnesium	320		2.0	mg/L		04/19/23 06:24	04/25/23 16:11	1
Manganese	2.1		0.010	mg/L		04/19/23 06:24	04/25/23 16:11	1
Potassium	15		0.50	mg/L		04/19/23 06:24	04/25/23 16:11	1
Sodium	1000		2.5	mg/L		04/19/23 06:24	04/28/23 20:32	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:58	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:58	10
Barium	0.025		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:58	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:58	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:58	10
Cobalt	0.0055		0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:58	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:58	10
Molybdenum	ND	E8	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:58	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:33	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-14

Date Collected: 04/15/23 15:06

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	0.00016	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:58	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:28	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.39		0.050	mg/L			04/24/23 12:03	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:46	1
Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			04/24/23 16:49	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			04/24/23 16:49	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:49	1
Total Dissolved Solids (SM 2540C)	5400		100	mg/L			04/20/23 14:28	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			04/20/23 14:23	1
Temperature (SM 4500 H+ B)	16.5	H5 T5	0.1	Degrees C			04/20/23 14:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.5	T5	0.50	mg/L			04/19/23 18:34	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.5	T5	0.50	mg/L			04/19/23 18:34	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.5	T5	0.50	mg/L			04/19/23 18:34	1

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-15

Date Collected: 04/15/23 15:06

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.5		0.10	mg/L		04/19/23 06:10	04/28/23 19:58	1
Manganese	2.0		0.010	mg/L		04/19/23 06:10	04/28/23 19:58	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	5.0	2.5	ug/L		04/25/23 04:23	05/19/23 08:01	10
Cobalt	4.9	E4	5.0	0.63	ug/L		04/25/23 04:23	05/19/23 08:01	10

Client Sample ID: CH-CCR-FD05-0423

Lab Sample ID: 550-200849-16

Date Collected: 04/15/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	440	D2	20	mg/L			04/19/23 01:10	10
Fluoride	ND	D1 D5	4.0	mg/L			04/19/23 01:10	10

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD05-0423

Lab Sample ID: 550-200849-16

Date Collected: 04/15/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	620	D2	20	mg/L			04/19/23 01:10	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 16:14	1
Lithium	0.094		0.020	mg/L		04/21/23 07:59	04/27/23 09:46	1
Boron	0.27		0.050	mg/L		04/19/23 06:24	04/25/23 16:14	1
Calcium	210		2.0	mg/L		04/19/23 06:24	04/25/23 16:14	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 19:00	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 19:00	10
Barium	0.030		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 19:00	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 19:00	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 19:00	10
Cobalt	0.0015	E4	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 19:00	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 19:00	10
Molybdenum	0.0032	E4	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 19:00	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:35	10
Thallium	0.00017	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 19:00	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1900		20	mg/L			04/20/23 14:28	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/20/23 14:24	1
Temperature (SM 4500 H+ B)	16.5	H5 T5	0.1	Degrees C			04/20/23 14:24	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-298504/2
Matrix: Water
Analysis Batch: 298504

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			04/18/23 11:03	1
Fluoride	ND		0.40	mg/L			04/18/23 11:03	1
Sulfate	ND		2.0	mg/L			04/18/23 11:03	1

Lab Sample ID: LCS 550-298504/5
Matrix: Water
Analysis Batch: 298504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.20		mg/L		105	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-298504/6
Matrix: Water
Analysis Batch: 298504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-200874-A-1 MS
Matrix: Water
Analysis Batch: 298504

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	400	E2 M3	20.0	398	E2 M3	mg/L		-7	80 - 120
Fluoride	0.68		4.00	5.01		mg/L		108	80 - 120
Sulfate	770	E2 M3	20.0	758	E2 M3	mg/L		-54	80 - 120

Lab Sample ID: 550-200874-A-1 MSD
Matrix: Water
Analysis Batch: 298504

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	400	E2 M3	20.0	398	E2 M3	mg/L		-7	80 - 120	0	20
Fluoride	0.68		4.00	5.01		mg/L		108	80 - 120	0	20
Sulfate	770	E2 M3	20.0	758	E2 M3	mg/L		-52	80 - 120	0	20

Method: 200.7 - Dissolved Metals by ICP

Lab Sample ID: MB 550-298512/1-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298512

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/19/23 06:10	04/28/23 19:04	1
Manganese	ND		0.010	mg/L		04/19/23 06:10	04/28/23 19:04	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 - Dissolved Metals by ICP (Continued)

Lab Sample ID: LCS 550-298512/2-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							Lower	Upper
Iron	1.00	1.02		mg/L		102	85	115
Manganese	1.00	1.11		mg/L		111	85	115

Lab Sample ID: LCSD 550-298512/3-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
							Lower	Upper	RPD	Limit
Iron	1.00	1.02		mg/L		102	85	115	0	20
Manganese	1.00	1.10		mg/L		110	85	115	1	20

Lab Sample ID: 550-200839-E-2-A MS
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
									Lower	Upper
Iron	0.43		1.00	1.52		mg/L		109	70	130
Manganese	0.066		1.00	1.17		mg/L		111	70	130

Lab Sample ID: 550-200839-E-2-B MSD
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
									Lower	Upper	RPD	Limit
Iron	0.43		1.00	1.52		mg/L		108	70	130	1	20
Manganese	0.066		1.00	1.19		mg/L		112	70	130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-298513/1-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298513

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:14	1
Boron	ND		0.050	mg/L		04/19/23 06:24	04/25/23 15:14	1
Calcium	ND		2.0	mg/L		04/19/23 06:24	04/25/23 15:14	1
Iron	ND		0.10	mg/L		04/19/23 06:24	04/25/23 15:14	1
Magnesium	ND		2.0	mg/L		04/19/23 06:24	04/25/23 15:14	1
Manganese	ND		0.010	mg/L		04/19/23 06:24	04/25/23 15:14	1
Potassium	ND		0.50	mg/L		04/19/23 06:24	04/25/23 15:14	1
Sodium	ND		0.50	mg/L		04/19/23 06:24	04/25/23 15:14	1

Lab Sample ID: LCS 550-298513/2-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							Lower	Upper
Beryllium	1.00	1.14		mg/L		114	85	115
Boron	1.00	1.16		mg/L		116	85	115

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-298513/2-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	24.1		mg/L		115	85 - 115
Iron	1.00	1.10		mg/L		110	85 - 115
Magnesium	21.0	23.2		mg/L		110	85 - 115
Manganese	1.00	1.08		mg/L		108	85 - 115
Potassium	20.0	21.7		mg/L		109	85 - 115
Sodium	20.0	22.3		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-298513/3-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.13		mg/L		113	85 - 115	1	20
Boron	1.00	1.16		mg/L		116	85 - 115	1	20
Calcium	21.0	23.9		mg/L		114	85 - 115	1	20
Iron	1.00	1.10		mg/L		110	85 - 115	0	20
Magnesium	21.0	23.0		mg/L		110	85 - 115	1	20
Manganese	1.00	1.08		mg/L		108	85 - 115	1	20
Potassium	20.0	21.6		mg/L		108	85 - 115	0	20
Sodium	20.0	22.1		mg/L		111	85 - 115	1	20

Lab Sample ID: 550-200842-E-7-A MS
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.20		mg/L		120	70 - 130
Boron	0.22		1.00	1.44		mg/L		123	70 - 130
Calcium	410	M3	21.0	411	M3	mg/L		13	70 - 130
Iron	2.5		1.00	3.49		mg/L		102	70 - 130
Magnesium	150		21.0	163	M3	mg/L		81	70 - 130
Manganese	2.6		1.00	3.48		mg/L		91	70 - 130
Potassium	8.5		20.0	32.9		mg/L		122	70 - 130
Sodium	840	E2 M3	20.0	823	E2 M3	mg/L		-66	70 - 130

Lab Sample ID: 550-200842-E-7-B MSD
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.20		mg/L		120	70 - 130	0	20
Boron	0.22		1.00	1.44		mg/L		122	70 - 130	0	20
Calcium	410	M3	21.0	408	M3	mg/L		-2	70 - 130	1	20
Iron	2.5		1.00	3.49		mg/L		102	70 - 130	0	20
Magnesium	150		21.0	162	M3	mg/L		75	70 - 130	1	20
Manganese	2.6		1.00	3.45		mg/L		89	70 - 130	1	20
Potassium	8.5		20.0	33.0		mg/L		123	70 - 130	0	20
Sodium	840	E2 M3	20.0	818	E2 M3	mg/L		-87	70 - 130	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-609401/1-A
Matrix: Water
Analysis Batch: 610352

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609401

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020	mg/L		04/21/23 07:59	04/27/23 07:57	1

Lab Sample ID: LCS 280-609401/2-A
Matrix: Water
Analysis Batch: 610352

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.05		mg/L		105	90 - 112

Lab Sample ID: 550-200842-I-7-B MS
Matrix: Water
Analysis Batch: 610352

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.069		1.00	1.20		mg/L		114	70 - 130

Lab Sample ID: 550-200842-I-7-C MSD
Matrix: Water
Analysis Batch: 610352

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.069		1.00	1.17		mg/L		110	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-298881/1-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.50	0.25	ug/L		04/25/23 04:23	05/18/23 20:34	1
Cobalt	ND	E8	0.50	0.063	ug/L		04/25/23 04:23	05/18/23 20:34	1

Lab Sample ID: LCS 550-298881/2-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	100	97.5		ug/L		98	85 - 115
Cobalt	100	102		ug/L		102	85 - 115

Lab Sample ID: LCSD 550-298881/3-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	100	94.4		ug/L		94	85 - 115	3	20
Cobalt	100	97.9		ug/L		98	85 - 115	4	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND	E8	0.0010	0.000043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:32	05/25/23 18:13	1
Barium	0.000261	E4	0.00050	0.00026	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:32	05/25/23 18:13	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:32	05/25/23 18:13	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:32	05/25/23 18:13	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:32	05/25/23 18:13	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:32	05/25/23 18:13	1

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Selenium	ND	E8	0.00050	0.000074	mg/L		04/27/23 07:32	05/31/23 19:50	1

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0934		mg/L		93	85 - 115
Barium	0.100	0.0930		mg/L		93	85 - 115
Cadmium	0.100	0.0958		mg/L		96	85 - 115
Chromium	0.100	0.0928		mg/L		93	85 - 115
Cobalt	0.100	0.0946		mg/L		95	85 - 115
Lead	0.100	0.0973		mg/L		97	85 - 115
Molybdenum	0.100	0.0989		mg/L		99	85 - 115
Thallium	0.100	0.0957		mg/L		96	85 - 115

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Antimony	0.100	0.0897		mg/L		90	85 - 115	0	20
Arsenic	0.100	0.0943		mg/L		94	85 - 115	1	20
Barium	0.100	0.0943		mg/L		94	85 - 115	1	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	1	20
Chromium	0.100	0.0952		mg/L		95	85 - 115	3	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.100	0.0967		mg/L		97	85 - 115	2	20
Lead	0.100	0.0991		mg/L		99	85 - 115	2	20
Molybdenum	0.100	0.0985		mg/L		99	85 - 115	0	20
Thallium	0.100	0.0989		mg/L		99	85 - 115	3	20

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.0966		mg/L		97	85 - 115	0	20

Lab Sample ID: 550-200842-H-7-A MS ^10
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND	E8	0.100	0.105		mg/L		105	70 - 130		
Arsenic	0.0032	E4	0.100	0.105		mg/L		102	70 - 130		
Barium	0.035		0.100	0.135		mg/L		100	70 - 130		
Cadmium	ND	E8	0.100	0.100		mg/L		100	70 - 130		
Chromium	ND	E8	0.100	0.0985		mg/L		98	70 - 130		
Cobalt	ND	E8	0.100	0.0964		mg/L		96	70 - 130		
Lead	ND	E8	0.100	0.0958		mg/L		96	70 - 130		
Molybdenum	ND	E8	0.100	0.110		mg/L		110	70 - 130		
Thallium	0.00031	E4	0.100	0.0965		mg/L		96	70 - 130		

Lab Sample ID: 550-200842-H-7-A MS ^10
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	ND	E8	0.100	0.126		mg/L		126	70 - 130		

Lab Sample ID: 550-200842-H-7-B MSD ^10
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND	E8	0.100	0.104		mg/L		104	70 - 130	2	20
Arsenic	0.0032	E4	0.100	0.100		mg/L		97	70 - 130	4	20
Barium	0.035		0.100	0.139		mg/L		104	70 - 130	3	20
Cadmium	ND	E8	0.100	0.0996		mg/L		100	70 - 130	1	20
Chromium	ND	E8	0.100	0.0937		mg/L		94	70 - 130	5	20
Cobalt	ND	E8	0.100	0.0936		mg/L		94	70 - 130	3	20
Lead	ND	E8	0.100	0.0955		mg/L		96	70 - 130	0	20
Molybdenum	ND	E8	0.100	0.108		mg/L		108	70 - 130	2	20
Thallium	0.00031	E4	0.100	0.0933		mg/L		93	70 - 130	3	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-200842-H-7-B MSD ^10
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	ND	E8	0.100	0.111		mg/L		111	70 - 130	13	20

Lab Sample ID: 550-200842-A-2-B MS ^10
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	ND	E8	100	103		ug/L		103	70 - 130		
Cobalt	11		100	111		ug/L		100	70 - 130		

Lab Sample ID: 550-200842-A-2-C MSD ^10
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	ND	E8	100	99.5		ug/L		100	70 - 130	3	20
Cobalt	11		100	109		ug/L		98	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-298681/1-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298681

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 18:48	1

Lab Sample ID: LCS 550-298681/2-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00457		mg/L		91	85 - 115		

Lab Sample ID: LCSD 550-298681/3-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00454		mg/L		91	85 - 115	1	20

Lab Sample ID: 550-200842-E-7-D MS
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00516		mg/L		103	70 - 130		

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-200842-E-7-E MSD
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00507		mg/L		101	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-298856/60
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			04/24/23 11:15	1

Lab Sample ID: LCS 550-298856/61
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	1.02		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-298856/62
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-201048-F-1 MS
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.1		1.00	1.98		mg/L		92	90 - 110

Lab Sample ID: 550-201048-F-1 MSD
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.1		1.00	2.11		mg/L		105	90 - 110	6	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-609489/60
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			04/20/23 11:46	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 280-609489/59
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.91		mg/L		98	90 - 110

Lab Sample ID: 550-200849-8 MS
Matrix: Water
Analysis Batch: 609489

Client Sample ID: CH-CCR-W126R-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND	M2 R4	4.00	4.05		mg/L		99	90 - 110

Lab Sample ID: 550-200849-8 MSD
Matrix: Water
Analysis Batch: 609489

Client Sample ID: CH-CCR-W126R-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	M2 R4	4.00	ND	M2 R4	mg/L		0.2	90 - 110	191	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-298888/3
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/23 13:54	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1

Lab Sample ID: LCS 550-298888/4
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	266		mg/L		107	90 - 110

Lab Sample ID: LCSD 550-298888/17
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110	7	20

Lab Sample ID: 550-200842-E-5 DU
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	120		122		mg/L		0.7	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-200842-E-5 DU
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Bicarbonate Alkalinity as CaCO3	120		122		mg/L		0.7	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-298495/1
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			04/18/23 18:02	1

Lab Sample ID: LCS 550-298495/2
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-298495/3
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10

Lab Sample ID: 550-200842-C-7 DU
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	7000		6930		mg/L		1	10

Lab Sample ID: MB 550-298667/1
Matrix: Water
Analysis Batch: 298667

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			04/20/23 14:28	1

Lab Sample ID: LCS 550-298667/2
Matrix: Water
Analysis Batch: 298667

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-298667/3
 Matrix: Water
 Analysis Batch: 298667

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-200849-10 DU
 Matrix: Water
 Analysis Batch: 298667

Client Sample ID: CH-CCR-M65A-0423
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	8700		8550		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-298680/37
 Matrix: Water
 Analysis Batch: 298680

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-298680/49
 Matrix: Water
 Analysis Batch: 298680

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-298680/58
 Matrix: Water
 Analysis Batch: 298680

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-200849-8 DU
 Matrix: Water
 Analysis Batch: 298680

Client Sample ID: CH-CCR-W126R-0423
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.6	H5	SU		0.3	5
Temperature	17.9	H5 T5	17.9	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-298642/1-A
 Matrix: Water
 Analysis Batch: 298644

Client Sample ID: Method Blank
 Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/19/23 15:34	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-298642/1-A
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/19/23 15:34	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/19/23 15:34	1

Lab Sample ID: MB 550-298644/5
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/19/23 12:38	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/19/23 12:38	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/19/23 12:38	1

Lab Sample ID: LCS 550-298644/18
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	21.9		mg/L		109	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.9		mg/L		109	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.9		mg/L		109	90 - 110

Lab Sample ID: LCSD 550-298644/19
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	21.9		mg/L		110	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	21.9		mg/L		110	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	21.9		mg/L		110	90 - 110	0	20

Lab Sample ID: 550-200842-B-1 MSD
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2		20.0	21.5		mg/L		101	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.3		20.0	21.5		mg/L		101	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.2		20.0	21.5		mg/L		101	90 - 110	4	20

Lab Sample ID: 550-200842-C-1 MS
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	1.2		20.0	22.3		mg/L		105	90 - 110

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-200842-C-1 MS

Matrix: Water

Analysis Batch: 298644

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon - Duplicate	1.3		20.0	22.3		mg/L		105	90 - 110
Dissolved Organic Carbon - Quad	1.2		20.0	22.3		mg/L		105	90 - 110

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 298504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	300.0	
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	300.0	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	300.0	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	300.0	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	300.0	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	300.0	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	300.0	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	300.0	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	300.0	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	300.0	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	300.0	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	300.0	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	300.0	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	300.0	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	300.0	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	300.0	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	300.0	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	300.0	
MB 550-298504/2	Method Blank	Total/NA	Water	300.0	
LCS 550-298504/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-298504/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-200874-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-200874-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 298512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-2	CH-CCR-M43A-0423	Dissolved	Water	200.7	
550-200849-6	CH-CCR-M46A-0423	Dissolved	Water	200.7	
550-200849-9	CH-CCR-W126R-0423	Dissolved	Water	200.7	
550-200849-11	CH-CCR-M65A-0423	Dissolved	Water	200.7	
550-200849-13	CH-CCR-M66A-0423	Dissolved	Water	200.7	
550-200849-15	CH-CCR-M67A-0423	Dissolved	Water	200.7	
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-200839-E-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-200839-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 298513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.7	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.7	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.7	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.7	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.7	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.7	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.7	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.7	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 298513 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.7	
MB 550-298513/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298513/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298513/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-200842-E-7-A MS	Matrix Spike	Total/NA	Water	200.7	
550-200842-E-7-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 298681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	245.1	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	245.1	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	245.1	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	245.1	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	245.1	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	245.1	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	245.1	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	245.1	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	245.1	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	245.1	
MB 550-298681/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-298681/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-298681/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-200842-E-7-D MS	Matrix Spike	Total/NA	Water	245.1	
550-200842-E-7-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 298707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	245.1	298681
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	245.1	298681
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	245.1	298681
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	245.1	298681
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	245.1	298681
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	245.1	298681
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	245.1	298681
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	245.1	298681
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	245.1	298681
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	245.1	298681
MB 550-298681/1-A	Method Blank	Total/NA	Water	245.1	298681
LCS 550-298681/2-A	Lab Control Sample	Total/NA	Water	245.1	298681
LCSD 550-298681/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	298681
550-200842-E-7-D MS	Matrix Spike	Total/NA	Water	245.1	298681
550-200842-E-7-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	298681

Prep Batch: 298881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-2	CH-CCR-M43A-0423	Dissolved	Water	200.8	
550-200849-6	CH-CCR-M46A-0423	Dissolved	Water	200.8	
550-200849-9	CH-CCR-W126R-0423	Dissolved	Water	200.8	
550-200849-11	CH-CCR-M65A-0423	Dissolved	Water	200.8	
550-200849-13	CH-CCR-M66A-0423	Dissolved	Water	200.8	
550-200849-15	CH-CCR-M67A-0423	Dissolved	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 298881 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-A-2-B MS ^10	Matrix Spike	Dissolved	Water	200.8	
550-200842-A-2-C MSD ^10	Matrix Spike Duplicate	Dissolved	Water	200.8	

Analysis Batch: 298953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.7 Rev 4.4	298513
MB 550-298513/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298513
LCS 550-298513/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298513
LCSD 550-298513/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-E-7-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-E-7-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	298513

Prep Batch: 299086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.8	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.8	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.8	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.8	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.8	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.8	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.8	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.8	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.8	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.8	
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 299290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-2	CH-CCR-M43A-0423	Dissolved	Water	200.7	298512
550-200849-6	CH-CCR-M46A-0423	Dissolved	Water	200.7	298512
550-200849-9	CH-CCR-W126R-0423	Dissolved	Water	200.7	298512
550-200849-11	CH-CCR-M65A-0423	Dissolved	Water	200.7	298512
550-200849-13	CH-CCR-M66A-0423	Dissolved	Water	200.7	298512
550-200849-15	CH-CCR-M67A-0423	Dissolved	Water	200.7	298512
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7	298512

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 299290 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7	298512
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	298512
550-200839-E-2-A MS	Matrix Spike	Total/NA	Water	200.7	298512
550-200839-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	298512

Analysis Batch: 299291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.7 Rev 4.4	298513

Analysis Batch: 300630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-2	CH-CCR-M43A-0423	Dissolved	Water	200.8 LL	298881
550-200849-6	CH-CCR-M46A-0423	Dissolved	Water	200.8 LL	298881
550-200849-9	CH-CCR-W126R-0423	Dissolved	Water	200.8 LL	298881
550-200849-11	CH-CCR-M65A-0423	Dissolved	Water	200.8 LL	298881
550-200849-13	CH-CCR-M66A-0423	Dissolved	Water	200.8 LL	298881
550-200849-15	CH-CCR-M67A-0423	Dissolved	Water	200.8 LL	298881
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8 LL	298881
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	298881
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	298881
550-200842-A-2-B MS ^10	Matrix Spike	Dissolved	Water	200.8 LL	298881
550-200842-A-2-C MSD ^10	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	298881

Analysis Batch: 301151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.8 LL	299086
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.8 LL	299086
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.8 LL	299086
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.8 LL	299086
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.8 LL	299086
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.8 LL	299086
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.8 LL	299086
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.8 LL	299086
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.8 LL	299086
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	299086
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	299086

Analysis Batch: 301436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.8 LL	299086
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.8 LL	299086
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.8 LL	299086
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.8 LL	299086

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 301436 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.8 LL	299086
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.8 LL	299086
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.8 LL	299086
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.8 LL	299086
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.8 LL	299086
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCS 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	299086
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	299086

Prep Batch: 609401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.7	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.7	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.7	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.7	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.7	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.7	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.7	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.7	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.7	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.7	
MB 280-609401/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-609401/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-200842-I-7-B MS	Matrix Spike	Total/NA	Water	200.7	
550-200842-I-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 610352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	200.7 Rev 4.4	609401
MB 280-609401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	609401
LCS 280-609401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-I-7-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-I-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	609401

General Chemistry

Analysis Batch: 298495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 298495 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	SM 2540C	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	SM 2540C	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	SM 2540C	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	SM 2540C	
MB 550-298495/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298495/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298495/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-200842-C-7 DU	Duplicate	Total/NA	Water	SM 2540C	

Filtration Batch: 298642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-298642/1-A	Method Blank	Dissolved	Water	Filtration	

Analysis Batch: 298644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Dissolved	Water	SM 5310B	
550-200849-5	CH-CCR-M46A-0423	Dissolved	Water	SM 5310B	
550-200849-8	CH-CCR-W126R-0423	Dissolved	Water	SM 5310B	
550-200849-10	CH-CCR-M65A-0423	Dissolved	Water	SM 5310B	
550-200849-12	CH-CCR-M66A-0423	Dissolved	Water	SM 5310B	
550-200849-14	CH-CCR-M67A-0423	Dissolved	Water	SM 5310B	
MB 550-298642/1-A	Method Blank	Dissolved	Water	SM 5310B	298642
MB 550-298644/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-298644/18	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-298644/19	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-200842-B-1 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-200842-C-1 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 298667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	SM 2540C	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	SM 2540C	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	SM 2540C	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	SM 2540C	
MB 550-298667/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298667/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298667/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-200849-10 DU	CH-CCR-M65A-0423	Total/NA	Water	SM 2540C	

Analysis Batch: 298680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-3	CH-CCR-M44D-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-4	CH-CCR-M45A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-7	CH-CCR-M63A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	SM 4500 H+ B	
550-200849-16	CH-CCR-FD05-0423	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 298680 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-298680/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/58	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200849-8 DU	CH-CCR-W126R-0423	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 298856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	350.1	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	350.1	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	350.1	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	350.1	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	350.1	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	350.1	
MB 550-298856/60	Method Blank	Total/NA	Water	350.1	
LCS 550-298856/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-298856/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-201048-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-201048-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 298888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	SM 2320B	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	SM 2320B	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	SM 2320B	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	SM 2320B	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	SM 2320B	
MB 550-298888/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-298888/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-298888/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-200842-E-5 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 609489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200849-1	CH-CCR-M43A-0423	Total/NA	Water	353.2	
550-200849-5	CH-CCR-M46A-0423	Total/NA	Water	353.2	
550-200849-8	CH-CCR-W126R-0423	Total/NA	Water	353.2	
550-200849-10	CH-CCR-M65A-0423	Total/NA	Water	353.2	
550-200849-12	CH-CCR-M66A-0423	Total/NA	Water	353.2	
550-200849-14	CH-CCR-M67A-0423	Total/NA	Water	353.2	
MB 280-609489/60	Method Blank	Total/NA	Water	353.2	
LCS 280-609489/59	Lab Control Sample	Total/NA	Water	353.2	
550-200849-8 MS	CH-CCR-W126R-0423	Total/NA	Water	353.2	
550-200849-8 MSD	CH-CCR-W126R-0423	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-1

Date Collected: 04/15/23 10:30

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 18:25
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 18:43
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:42
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:10
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:36
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:11
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:08
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:56
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:20
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:05
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 17:31

Client Sample ID: CH-CCR-M43A-0423

Lab Sample ID: 550-200849-2

Date Collected: 04/15/23 10:30

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:44
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/18/23 20:49

Client Sample ID: CH-CCR-M44D-0423

Lab Sample ID: 550-200849-3

Date Collected: 04/13/23 11:17

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	298504	AS1	EET PHX	04/18/23 17:48
Total/NA	Analysis	300.0		50	298504	AS1	EET PHX	04/18/23 18:07
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:45
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:14
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:38
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:13

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M44D-0423

Lab Sample ID: 550-200849-3

Date Collected: 04/13/23 11:17

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:10
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:06

Client Sample ID: CH-CCR-M45A-0423

Lab Sample ID: 550-200849-4

Date Collected: 04/15/23 11:33

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 19:02
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 19:20
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:48
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:18
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:40
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:15
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:12
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:07

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-5

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 19:39
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 19:57
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:57
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:21
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:22
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:42
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:17
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:14

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-5

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:57
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:22
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:19
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:08
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 17:43

Client Sample ID: CH-CCR-M46A-0423

Lab Sample ID: 550-200849-6

Date Collected: 04/15/23 13:55

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:47
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/18/23 20:51

Client Sample ID: CH-CCR-M63A-0423

Lab Sample ID: 550-200849-7

Date Collected: 04/15/23 08:57

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 21:11
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:59
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:26
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:50
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:19
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:16
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:09

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-8

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 21:47
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 22:06

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-8

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 16:02
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		10	299291	GLW	EET PHX	04/28/23 20:24
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:30
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:52
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:27
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:22
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:59
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:24
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:28
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:12
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 17:56

Client Sample ID: CH-CCR-W126R-0423

Lab Sample ID: 550-200849-9

Date Collected: 04/15/23 17:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:50
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 07:55

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-10

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 22:24
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 22:43
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 16:05
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:26
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:34
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:54

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-10

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:29
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:24
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 12:00
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:42
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:34
Total/NA	Analysis	SM 2540C		1	298667	RDC	EET PHX	04/20/23 14:28 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:14
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 18:09

Client Sample ID: CH-CCR-M65A-0423

Lab Sample ID: 550-200849-11

Date Collected: 04/15/23 12:46

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:52
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 07:57

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 23:01
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 23:19
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 16:08
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:29
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:38
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:56
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:31
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:26
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 12:02
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:44
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:42
Total/NA	Analysis	SM 2540C		1	298667	RDC	EET PHX	04/20/23 14:28 - 04/24/23 10:42 ¹

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Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-12

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:20
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 18:21

Client Sample ID: CH-CCR-M66A-0423

Lab Sample ID: 550-200849-13

Date Collected: 04/15/23 16:11

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:55
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 07:59

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-14

Date Collected: 04/15/23 15:06

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/18/23 23:38
Total/NA	Analysis	300.0		200	298504	AS1	EET PHX	04/18/23 23:56
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 16:11
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:32
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:42
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:58
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:33
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:28
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 12:03
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:46
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:49
Total/NA	Analysis	SM 2540C		1	298667	RDC	EET PHX	04/20/23 14:28 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:23
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 18:34

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M67A-0423

Lab Sample ID: 550-200849-15

Date Collected: 04/15/23 15:06

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:58
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:01

Client Sample ID: CH-CCR-FD05-0423

Lab Sample ID: 550-200849-16

Date Collected: 04/15/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	298504	AS1	EET PHX	04/19/23 01:10
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 16:14
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610352	ADL	EET DEN	04/27/23 09:46
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 19:00
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:35
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:30
Total/NA	Analysis	SM 2540C		1	298667	RDC	EET PHX	04/20/23 14:28 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:24

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	05-22-23

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200849-1
 SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency
 SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
 EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Phoenix

4625 E Cotton Center Blvd

Suite 189

Phoenix, AZ 85040

phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

TestAmerica Laboratories, Inc.

200849

Client Contact

Natalie Chrisman Lazarr

Pam Norris (505) 598-8781

Date:

COC No. 1 of 1 COCs

4801 Cholla Lake Rd

(602) 250-3608

Lab Contact: Danielle Roberts

Carrier:

Sampler: 1 of 1 COCs

Joseph City, AZ 86032

Analysis Turnaround Time

EPA 300.0 (Cl, F, SO4)

SM 2540C (TDS)

For Lab Use Only:

(928) 587-0319

CALENDAR DAYS

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)

SM 5310B (DOC)

Walk-in Client:

Phone

WORKING DAYS

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)

SM 4500-NH3 D (NH3 as N)

Lab Sampling:

FAX

TAT if different from Below

EPA 200.7 - Total Lithium

353.2 (NO3+NO2 as N)

Job / SDG No.:

Project Name: CCR Groundwater Monitoring

1 week

EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)

SM 4500-HB (pH)

Sample Specific Notes:

Site: APS Cholla Power Plant (FAP)

2 days

EPA 200.8 - Dissolved (As, Co)

SM 2320B (HCO3 - Alk. as

Low flow

PO #: 300592358

1 day

EPA 245.1 - Totals (Hg)

SM 2320B (HCO3 - Alk. as

6.46c

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 - Alk. as	
CH-CCR-M43A-0423	04/15/23	1030	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M44D-0423	04/13/23	11:17	G	W	3	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M45A-0423	04/15/23	1133	G	W	3	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M46A-0423	04/15/23	1355	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M63A-0423	04/15/23	0857	G	W	3	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W126R-0423	4/15/23	1720	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M65A-0423	04/15/23	1246	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M66A-0423	04/15/23	1611	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M67A-0423	04/15/23	1506	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-FD05-0423	04/15/23	1620	G	W	3	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Are any samples from a listed EPA Hazardous Waste? Please List

Non-Hazard Flammable Skin Irritant

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell. * As marked on the bottle. f



550-200849 Chain of Custody

Yes marked 'field filtered'

6.46c

Custody Seals Intact: Yes No

Cooler Temp. (°C): Obs'd:

Therm ID No.:

Relinquished by: *[Signature]*

Company: WSP

Date/Time: 4/17/23 13:38

Relinquished by: *[Signature]*

Company: WSP

Date/Time: 4/17/23 13:38

Relinquished by: *[Signature]*

Company: WSP

Date/Time: 4/17/23 13:38

Relinquished by: *[Signature]*

Company: WSP

Date/Time: 4/17/23 13:38

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-200849-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 200849

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

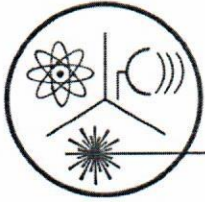
Job Number: 550-200849-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 200849
List Number: 2
Creator: Naylis, Patrick J

List Source: Eurofins Denver
List Creation: 04/19/23 06:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2023
Sample Received: April 21, 2023
Analysis Completed: May 11, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M50A-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
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Alex Myers, Ph.D.

5/11/2023

Date

Laboratory License Number AZ0462

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 17, 2023 15:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/28/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<


Specimen Number: RSE71608 _____

Lab ID Number: AZ0462 _____

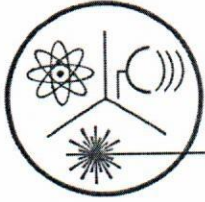
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M50A-0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2023
Sample Received: April 21, 2023
Analysis Completed: May 11, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M51A-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
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Alex Myers, Ph.D.

5/11/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____
 April 17, 2023 14:14 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person _____

 Owner/Contact Fax Number Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

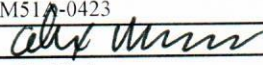
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

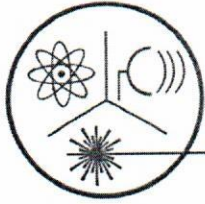
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/28/2023	< 0.6	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71609 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-M51A-0423 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2023
Sample Received: April 21, 2023
Analysis Completed: May 11, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M64A-0423	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
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Alex Myers, Ph.D.

5/11/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____
 April 17, 2023 12:15 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person _____

 Owner/Contact Fax Number Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

Reduced Monitoring Date Q1 collected: _____
 Quarterly Date Q2 collected: _____
 Composite of four quarterly samples Date Q3 collected: _____
 Date Q4 collected: _____

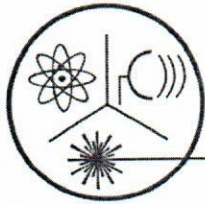
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	0.5 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	0.5 ± 0.2	_____
		1 pCi/L	Radium 228	4030	4/28/2023	< 0.6	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71610 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-M64A-0423 _____
 Authorized Signature: *Robert L. Metzger* _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2023
Sample Received: April 21, 2023
Analysis Completed: May 11, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123R-0423	< 0.5	0.6 ± 0.3	0.6 ± 0.3

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
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Alex Myers, Ph.D.

5/11/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 17, 2023 17:47 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	0.6 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/28/2023	0.6 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

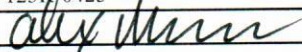
Specimen Number: RSE71611

Lab ID Number: AZ0462

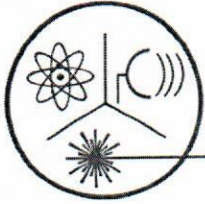
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W123R40423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2023
Sample Received: April 21, 2023
Analysis Completed: May 11, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-BudHunt-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
------------------	-----------	-----------	-----------

5/11/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 17, 2023 16:44 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/28/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71612

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-BudHunt-0423

Authorized Signature: *aly*

Date Public Water System Notified: _____



Alex Myers <alex@radsafe.com>

Cholla Power Plant Water Samples

OShea, Samantha <samantha.oshea@wsp.com>
To: "alex@radsafe.com" <alex@radsafe.com>

Fri, Apr 21, 2023 at 7:29 PM

Alex-

Please add the BudHunt sample to the login, it was on the TestAmerica CoC and it may have just been left off the Radiation Safety CoC. There should have been a CH-CCR-W125-0423 sample but it may have been accidently left with TestAmerica. The field team will be on Site on Monday, I will just have them resample that location. Please remove from the login. Sorry for the inconvenience, thank you.



Samantha O'Shea

Senior Consultant – Geologist

Site Investigation & Remediation Service Line Lead

T+ 1 507-469-9093

wsp.com

From: Alex Myers <alex@radsafe.com>
Sent: Friday, April 21, 2023 3:55 PM
To: Chrisman Lazarr, Natalie <Natalie.ChrismanLazarr@aps.com>; admin@radsafe.com
Subject: Cholla Power Plant Water Samples

CAUTION

CAUTION

CAUTION

This e-mail is from an **EXTERNAL** address (alex@radsafe.com). **DO NOT** click on links or open attachments unless you trust the sender and know the content is safe. If you suspect this message to be phishing, please report it to the APS Cyber Defense Center at ACDC@aps.com.

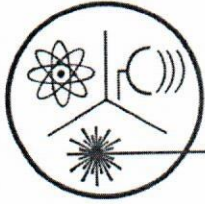
Hi Natalie,

[Quoted text hidden]

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Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M43A-0423	< 0.4	< 0.6	< 0.6
Date of Analysis	5/3/2023	5/3/2023	5/3/2023

5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 10:30 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/3/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/3/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/3/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71517 _____

Lab ID Number: AZ0462 _____

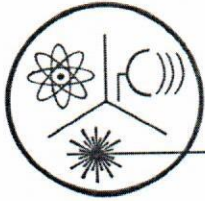
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M43A-0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 13, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44D-0423	1.9 ± 0.2	0.8 ± 0.3	2.7 ± 0.4

Date of Analysis	5/1/2023	5/1/2023	5/1/2023
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Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 13, 2023 11:17 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/1/2023	2.7 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/1/2023	1.9 ± 0.2	_____
		1 pCi/L	Radium 228	4030	5/1/2023	0.8 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE71518

Lab ID Number: AZ0462

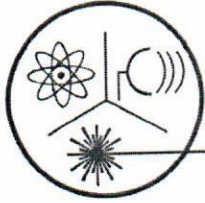
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M44D-0423

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M45A-0423	< 0.4	0.9 ± 0.3	0.9 ± 0.3

Date of Analysis	5/1/2023	5/1/2023	5/1/2023
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Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 11:33 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/1/2023	0.9 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/1/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/1/2023	0.9 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71519

Lab ID Number: AZ0462

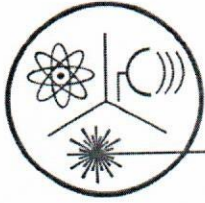
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M45A0423

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M46A-0423	< 0.4	0.9 ± 0.3	0.9 ± 0.3
Date of Analysis	5/1/2023	5/1/2023	5/1/2023

5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 13:56 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

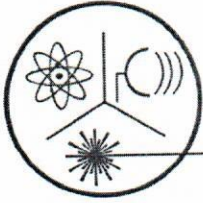
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/1/2023	0.9 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/1/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/1/2023	0.9 ± 0.3	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71520
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-M46A-0423
 Authorized Signature: *Robert L. Metzger*
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M63A-0423	< 0.4	< 0.6	< 0.6
Date of Analysis	5/2/2023	5/2/2023	5/2/2023

5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 8:57 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/2/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/2/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/2/2023	< 0.6	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE71521 _____

Lab ID Number: AZ0462 _____

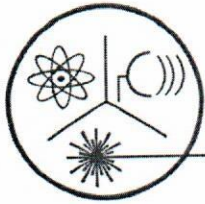
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M63A-0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD05-0423	< 0.4	1.0 ± 0.3	1.0 ± 0.3

Date of Analysis	5/2/2023	5/2/2023	5/2/2023
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Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 16:20 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/2/2023	1.0 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/2/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/2/2023	1.0 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71522

Lab ID Number: AZ0462

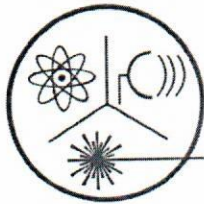
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD05-0423

Authorized Signature: *ally*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M65A-0423	< 0.4	1.3 ± 0.3	1.3 ± 0.3

Date of Analysis	5/2/2023	5/2/2023	5/2/2023
------------------	----------	----------	----------

5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 12:46 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/2/2023	1.3 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/2/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/2/2023	1.3 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE71523

Lab ID Number: AZ0462

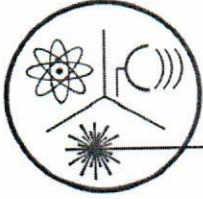
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M65A-0423

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M66A-0423	< 0.6	< 0.6	< 0.6

Date of Analysis	4/26/2023	4/26/2023	4/26/2023
------------------	-----------	-----------	-----------

Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 16:11 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/26/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/26/2023	< 0.6	_____
		1 pCi/L	Radium 228	4030	4/26/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71524

Lab ID Number: AZ0462

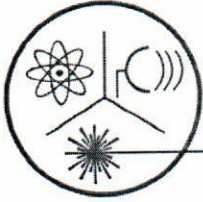
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M66A-0.23

Authorized Signature: *ally dunn*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M67A-0423	< 0.6	< 0.6	< 0.6

Date of Analysis	4/26/2023	4/26/2023	4/26/2023
------------------	-----------	-----------	-----------

Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____
 April 15, 2023 15:06 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person _____

 Owner/Contact Fax Number Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:


Reduced Monitoring Date Q1 collected: _____
 Quarterly Date Q2 collected: _____
 Composite of four quarterly samples Date Q3 collected: _____
 Date Q4 collected: _____

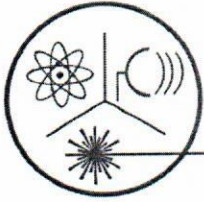
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/26/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/26/2023	< 0.6	_____
		1 pCi/L	Radium 228	4030	4/26/2023	< 0.6	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71525 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-M67A-0423 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126R-0423	< 0.6	0.6 ± 0.3	0.6 ± 0.3

Date of Analysis	4/26/2023	4/26/2023	4/26/2023
------------------	-----------	-----------	-----------

Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 15, 2023 17:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/26/2023	0.6 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/26/2023	< 0.6	_____
		1 pCi/L	Radium 228	4030	4/26/2023	0.6 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

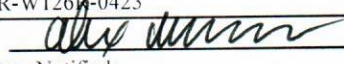
Specimen Number: RSE71526

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W1260-0423

Authorized Signature: 

Date Public Water System Notified: _____

Client Information				Radiation Safety Engineering, Inc. 3245 North Washington Street, Chandler, Arizona 85225														
Name: Natalie Chrisman Lazarr/602-250-3608				Analysis Request														
Company: Arizona Public Service																		
Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032																		
Phone: 928-587-0319																		
Site: APS Cholla Power Plant (FAP)																		
Sample ID & Location (DWR#)	Collection Date	Time	Media (DW*, WW*, Other)	Drinking Water Compliance														
				Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air			
CH-CCR-M43A-0423	4/15/2023	1030	GW						X	X	X							71
CH-CCR-M44D-0423	4/13/2023	1117	GW						X	X	X							71
CH-CCR-M45A-0423	4/15/2023	1133	GW						X	X	X							71
CH-CCR-M46A-0423	4/15/2023	1356	GW						X	X	X							71
CH-CCR-M63A-0423	4/15/2023	857	GW						X	X	X							71
CH-CCR-FD05-0423	4/15/2023	1620	GW						X	X	X							71
CH-CCR-M65A-0423	4/15/2023	1246	GW						X	X	X							71
CH-CCR-M66A-0423	4/15/2023	1611	GW						X	X	X							71
CH-CCR-M67A-0423	4/15/2023	1506	GW						X	X	X							71
CH-CCR-W126R-0423	4/15/2023	1720	GW						X	X	X							71
Sample Receipt				Instructions/Comments														
Total No. of Containers				Method HPGe														
Chain of Custody Seals																		
Container Condition																		
Lab No.																		
Relinquished By: <i>Bob Lazarr</i>				Received By: <i>Bob Lazarr</i>														
Company: <i>WSP</i>				Date/time: <i>17 April 2023</i>														
Relinquished By:				Date/time: <i>0805</i>														
Relinquished By:				Date/time: <i>4-17-23 1:07</i>														

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* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

[u/client/forms/cofc.frm](http://client/forms/cofc.frm)

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 6/13/2023 3:49:03 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAP)

JOB NUMBER

550-200842-1

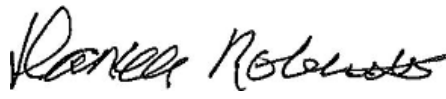
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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6/13/2023 3:49:03 PM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-200842-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-200842-1

Comments

No additional comments.

Receipt

The samples were received on 4/17/2023 1:36 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 7.3° C and 9.3° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: CH-CCR-FD02-0423 (550-200842-1), CH-CCR-FD02-0423 (550-200842-2), CH-CCR-W305-0423 (550-200842-3), CH-CCR-W305-0423 (550-200842-4), CH-CCR-MW79A-0423 (550-200842-5), CH-CCR-MW79A-0423 (550-200842-6), CH-CCR-W317-0423 (550-200842-7), CH-CCR-FD04-0423 (550-200842-7[DUJ]), CH-CCR-W317-0423 (550-200842-7[MSJ]), CH-CCR-W317-0423 (550-200842-7[MSD]) and CH-CCR-FD04-0423 (550-200842-8). This does not meet regulatory requirements.

HPLC/IC

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-FD02-0423 (550-200842-1), CH-CCR-W305-0423 (550-200842-3), CH-CCR-MW79A-0423 (550-200842-5), CH-CCR-W317-0423 (550-200842-7) and CH-CCR-FD04-0423 (550-200842-8). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 550-200842-2

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-200842-2

Comments

No additional comments.

Receipt

The samples were received on 4/17/2023 1:36 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 7.3° C and 9.3° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: CH-CCR-FD02-0423 (550-200842-1), CH-CCR-FD02-0423 (550-200842-2), CH-CCR-W305-0423 (550-200842-3), CH-CCR-W305-0423 (550-200842-4), CH-CCR-MW79A-0423 (550-200842-5), CH-CCR-MW79A-0423 (550-200842-6), CH-CCR-W317-0423 (550-200842-7), CH-CCR-FD04-0423 (550-200842-7[DUJ]), CH-CCR-W317-0423 (550-200842-7[MSJ]), CH-CCR-W317-0423 (550-200842-7[MSD]) and CH-CCR-FD04-0423 (550-200842-8). This does not meet regulatory requirements.

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-200842-2 (Continued)

Laboratory: Eurofins Phoenix (Continued)

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

- 1
- 2
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Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-200842-1	CH-CCR-FD02-0423	Water	04/14/23 13:20	04/17/23 13:36
550-200842-2	CH-CCR-FD02-0423	Water	04/14/23 13:20	04/17/23 13:36
550-200842-3	CH-CCR-W305-0423	Water	04/14/23 15:39	04/17/23 13:36
550-200842-4	CH-CCR-W305-0423	Water	04/14/23 15:39	04/17/23 13:36
550-200842-5	CH-CCR-MW79A-0423	Water	04/14/23 16:43	04/17/23 13:36
550-200842-6	CH-CCR-MW79A-0423	Water	04/14/23 16:43	04/17/23 13:36
550-200842-7	CH-CCR-W317-0423	Water	04/14/23 18:11	04/17/23 13:36
550-200842-8	CH-CCR-FD04-0423	Water	04/14/23 12:34	04/17/23 13:36

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Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-0423

Lab Sample ID: 550-200842-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	860		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.012		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0093		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.015		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00026	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	3000		100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD02-0423

Lab Sample ID: 550-200842-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.5		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.011		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2300	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.24		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.48		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.43		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	7.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.2		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.012		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00028	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Cobalt	0.016		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.023		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0044	E4	0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.00015	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.17		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-0423 (Continued)

Lab Sample ID: 550-200842-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Temperature	16.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.3	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.34		0.10	mg/L	1		200.7	Dissolved
Manganese	7.0		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.017		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.39		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	880		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.023		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00031	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0097		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.016		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00026	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.3		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.010		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W317-0423

Lab Sample ID: 550-200842-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400	mg/L	200		300.0	Total/NA
Sulfate	690	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.073		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0032	E4	0.0050	0.0025 mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-0423 (Continued)

Lab Sample ID: 550-200842-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.035		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Thallium	0.00031	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	7000		100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	16.1	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-0423

Lab Sample ID: 550-200842-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	400		mg/L	200		300.0	Total/NA
Sulfate	690	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.075		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	410		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.035		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	7000		100		mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.3	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-0423

Lab Sample ID: 550-200842-1

Date Collected: 04/14/23 13:20

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	mg/L			04/17/23 20:54	200
Fluoride	ND	D1 D5	2.0	mg/L			04/17/23 20:35	5
Sulfate	2400	D2	400	mg/L			04/17/23 20:54	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:31	1
Lithium	0.17		0.020	mg/L		04/21/23 07:59	04/28/23 18:45	1
Boron	0.39		0.050	mg/L		04/19/23 06:24	04/25/23 15:31	1
Calcium	860		2.0	mg/L		04/19/23 06:24	04/25/23 15:31	1
Iron	ND		0.10	mg/L		04/19/23 06:24	04/25/23 15:31	1
Magnesium	100		2.0	mg/L		04/19/23 06:24	04/25/23 15:31	1
Manganese	4.3		0.010	mg/L		04/19/23 06:24	04/25/23 15:31	1
Potassium	11		0.50	mg/L		04/19/23 06:24	04/25/23 15:31	1
Sodium	1600		2.5	mg/L		04/19/23 06:24	04/28/23 20:12	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:28	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:28	10
Barium	0.012		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:28	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:28	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:28	10
Cobalt	0.0093		0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:28	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:28	10
Molybdenum	0.015		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:28	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:03	10
Thallium	0.00026	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:28	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/24/23 11:51	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:14	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			04/24/23 15:38	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 15:38	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			04/24/23 15:38	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 15:38	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 15:38	1
Total Dissolved Solids (SM 2540C)	3000		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			04/20/23 13:56	1
Temperature (SM 4500 H+ B)	15.4	H5 T5	0.1	Degrees C			04/20/23 13:56	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-0423

Lab Sample ID: 550-200842-1

Date Collected: 04/14/23 13:20

Matrix: Water

Date Received: 04/17/23 13:36

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3	T5	0.50	mg/L			04/20/23 12:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4	T5	0.50	mg/L			04/20/23 12:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3	T5	0.50	mg/L			04/20/23 12:06	1

Client Sample ID: CH-CCR-FD02-0423

Lab Sample ID: 550-200842-2

Date Collected: 04/14/23 13:20

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/19/23 06:10	04/28/23 19:30	1
Manganese	4.5		0.010	mg/L		04/19/23 06:10	04/28/23 19:30	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/18/23 20:44	10
Cobalt	0.011		0.0050	0.00063	mg/L		04/25/23 04:23	05/18/23 20:44	10

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-3

Date Collected: 04/14/23 15:39

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			04/17/23 21:31	200
Fluoride	ND	D1 D5	2.0	mg/L			04/17/23 21:12	5
Sulfate	2300	D2	400	mg/L			04/17/23 21:31	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:34	1
Lithium	0.24		0.020	mg/L		04/21/23 07:59	04/28/23 18:49	1
Boron	0.48		0.050	mg/L		04/19/23 06:24	04/25/23 15:34	1
Calcium	800		2.0	mg/L		04/19/23 06:24	04/25/23 15:34	1
Iron	0.43		0.10	mg/L		04/19/23 06:24	04/25/23 15:34	1
Magnesium	130		2.0	mg/L		04/19/23 06:24	04/25/23 15:34	1
Manganese	7.1		0.010	mg/L		04/19/23 06:24	04/25/23 15:34	1
Potassium	2.2		0.50	mg/L		04/19/23 06:24	04/25/23 15:34	1
Sodium	1700		2.5	mg/L		04/19/23 06:24	04/28/23 20:15	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:30	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:30	10
Barium	0.012		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:30	10
Cadmium	0.00028	E4	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:30	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:30	10
Cobalt	0.016		0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:30	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:30	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-3

Date Collected: 04/14/23 15:39

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.023		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:30	10
Selenium	0.0044	E4	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:05	10
Thallium	0.00015	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:30	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.17		0.050	mg/L			04/24/23 11:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:16	1
Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			04/24/23 15:45	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 15:45	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			04/24/23 15:45	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 15:45	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 15:45	1
Total Dissolved Solids (SM 2540C)	7200		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			04/20/23 13:59	1
Temperature (SM 4500 H+ B)	16.5	H5 T5	0.1	Degrees C			04/20/23 13:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.3	T5	0.50	mg/L			04/19/23 17:01	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.3	T5	0.50	mg/L			04/19/23 17:01	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.3	T5	0.50	mg/L			04/19/23 17:01	1

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-4

Date Collected: 04/14/23 15:39

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.34		0.10	mg/L		04/19/23 06:10	04/28/23 19:33	1
Manganese	7.0		0.010	mg/L		04/19/23 06:10	04/28/23 19:33	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/18/23 20:46	10
Cobalt	0.017		0.0050	0.00063	mg/L		04/25/23 04:23	05/18/23 20:46	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-5

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	mg/L			04/18/23 00:53	200
Fluoride	ND	D1 D5	2.0	mg/L			04/18/23 00:35	5
Sulfate	2400	D2	400	mg/L			04/18/23 00:53	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:37	1
Lithium	0.17		0.020	mg/L		04/21/23 07:59	04/28/23 18:53	1
Boron	0.39		0.050	mg/L		04/19/23 06:24	04/25/23 15:37	1
Calcium	880		2.0	mg/L		04/19/23 06:24	04/25/23 15:37	1
Iron	ND		0.10	mg/L		04/19/23 06:24	04/25/23 15:37	1
Magnesium	110		2.0	mg/L		04/19/23 06:24	04/25/23 15:37	1
Manganese	4.3		0.010	mg/L		04/19/23 06:24	04/25/23 15:37	1
Potassium	12		0.50	mg/L		04/19/23 06:24	04/25/23 15:37	1
Sodium	1600		2.5	mg/L		04/19/23 06:24	04/28/23 20:18	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:32	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:32	10
Barium	0.023		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:32	10
Cadmium	0.00031	E4	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:32	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:32	10
Cobalt	0.0097		0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:32	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:32	10
Molybdenum	0.016		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:32	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:07	10
Thallium	0.00026	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:32	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/24/23 11:54	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/20/23 12:18	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			04/24/23 16:05	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 16:05	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			04/24/23 16:05	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:05	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 16:05	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/20/23 14:01	1
Temperature (SM 4500 H+ B)	16.7	H5 T5	0.1	Degrees C			04/20/23 14:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-5

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2	T5	0.50	mg/L			04/19/23 17:18	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2	T5	0.50	mg/L			04/19/23 17:18	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2	T5	0.50	mg/L			04/19/23 17:18	1

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-6

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/19/23 06:10	04/28/23 19:35	1
Manganese	4.3		0.010	mg/L		04/19/23 06:10	04/28/23 19:35	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/18/23 20:48	10
Cobalt	0.010		0.0050	0.00063	mg/L		04/25/23 04:23	05/18/23 20:48	10

Client Sample ID: CH-CCR-W317-0423

Lab Sample ID: 550-200842-7

Date Collected: 04/14/23 18:11

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			04/17/23 23:39	200
Fluoride	ND	D1 D5	2.0	mg/L			04/17/23 22:44	5
Sulfate	690	D2	400	mg/L			04/17/23 23:39	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:28	1
Lithium	0.073		0.020	mg/L		04/21/23 07:59	04/28/23 18:57	1
Boron	0.22		0.050	mg/L		04/19/23 06:24	04/25/23 15:28	1
Calcium	410	M3	2.0	mg/L		04/19/23 06:24	04/25/23 15:28	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:26	10
Arsenic	0.0032	E4	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:26	10
Barium	0.035		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:26	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:26	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:26	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:26	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:26	10
Molybdenum	ND	E8	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:26	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:01	10
Thallium	0.00031	E4	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:26	10

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-0423

Lab Sample ID: 550-200842-7

Date Collected: 04/14/23 18:11

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 18:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7000		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			04/20/23 14:02	1
Temperature (SM 4500 H+ B)	16.1	H5 T5	0.1	Degrees C			04/20/23 14:02	1

Client Sample ID: CH-CCR-FD04-0423

Lab Sample ID: 550-200842-8

Date Collected: 04/14/23 12:34

Matrix: Water

Date Received: 04/17/23 13:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	400	mg/L			04/18/23 01:30	200
Fluoride	ND	D1 D5	2.0	mg/L			04/18/23 01:11	5
Sulfate	690	D2	400	mg/L			04/18/23 01:30	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:40	1
Lithium	0.075		0.020	mg/L		04/21/23 07:59	04/28/23 19:25	1
Boron	0.22		0.050	mg/L		04/19/23 06:24	04/25/23 15:40	1
Calcium	410		2.0	mg/L		04/19/23 06:24	04/25/23 15:40	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:34	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 18:34	10
Barium	0.035		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 18:34	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 18:34	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 18:34	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 18:34	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 18:34	10
Molybdenum	ND	E8	0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 18:34	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:09	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 18:34	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 19:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7000		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			04/20/23 14:03	1
Temperature (SM 4500 H+ B)	15.3	H5 T5	0.1	Degrees C			04/20/23 14:03	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-298417/2
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			04/17/23 11:00	1
Fluoride	ND		0.40	mg/L			04/17/23 11:00	1
Sulfate	ND		2.0	mg/L			04/17/23 11:00	1

Lab Sample ID: LCS 550-298417/5
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-298417/6
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.28		mg/L		107	90 - 110	4	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	ND	D1 D5	20.0	21.1	D1	mg/L		104	80 - 120

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1600	D2	4000	5810	D2	mg/L		105	80 - 120
Sulfate	690	D2	4000	4850	D2	mg/L		104	80 - 120

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND	D1 D5	20.0	21.3	D1	mg/L		105	80 - 120	1	20

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1600	D2	4000	5790	D2	mg/L		104	80 - 120	0	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	690	D2	4000	4870	D2	mg/L		104	80 - 120	0	20

Method: 200.7 - Dissolved Metals by ICP

Lab Sample ID: MB 550-298512/1-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298512

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/19/23 06:10	04/28/23 19:04	1
Manganese	ND		0.010	mg/L		04/19/23 06:10	04/28/23 19:04	1

Lab Sample ID: LCS 550-298512/2-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	1.02		mg/L		102	85 - 115
Manganese	1.00	1.11		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-298512/3-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	1.02		mg/L		102	85 - 115	0	20
Manganese	1.00	1.10		mg/L		110	85 - 115	1	20

Lab Sample ID: 550-200839-E-2-A MS
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	0.43		1.00	1.52		mg/L		109	70 - 130
Manganese	0.066		1.00	1.17		mg/L		111	70 - 130

Lab Sample ID: 550-200839-E-2-B MSD
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	0.43		1.00	1.52		mg/L		108	70 - 130	1	20
Manganese	0.066		1.00	1.19		mg/L		112	70 - 130	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-298513/1-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298513

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/19/23 06:24	04/25/23 15:14	1
Boron	ND		0.050	mg/L		04/19/23 06:24	04/25/23 15:14	1
Calcium	ND		2.0	mg/L		04/19/23 06:24	04/25/23 15:14	1
Iron	ND		0.10	mg/L		04/19/23 06:24	04/25/23 15:14	1
Magnesium	ND		2.0	mg/L		04/19/23 06:24	04/25/23 15:14	1
Manganese	ND		0.010	mg/L		04/19/23 06:24	04/25/23 15:14	1
Potassium	ND		0.50	mg/L		04/19/23 06:24	04/25/23 15:14	1
Sodium	ND		0.50	mg/L		04/19/23 06:24	04/25/23 15:14	1

Lab Sample ID: LCS 550-298513/2-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.14		mg/L		114	85 - 115
Boron	1.00	1.16		mg/L		116	85 - 115
Calcium	21.0	24.1		mg/L		115	85 - 115
Iron	1.00	1.10		mg/L		110	85 - 115
Magnesium	21.0	23.2		mg/L		110	85 - 115
Manganese	1.00	1.08		mg/L		108	85 - 115
Potassium	20.0	21.7		mg/L		109	85 - 115
Sodium	20.0	22.3		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-298513/3-A
Matrix: Water
Analysis Batch: 298953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.13		mg/L		113	85 - 115	1	20
Boron	1.00	1.16		mg/L		116	85 - 115	1	20
Calcium	21.0	23.9		mg/L		114	85 - 115	1	20
Iron	1.00	1.10		mg/L		110	85 - 115	0	20
Magnesium	21.0	23.0		mg/L		110	85 - 115	1	20
Manganese	1.00	1.08		mg/L		108	85 - 115	1	20
Potassium	20.0	21.6		mg/L		108	85 - 115	0	20
Sodium	20.0	22.1		mg/L		111	85 - 115	1	20

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 298953

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.20		mg/L		120	70 - 130
Boron	0.22		1.00	1.44		mg/L		123	70 - 130
Calcium	410	M3	21.0	411	M3	mg/L		13	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 298953

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 298513

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Beryllium	ND		1.00	1.20		mg/L		120	70 - 130	0	20
Boron	0.22		1.00	1.44		mg/L		122	70 - 130	0	20
Calcium	410	M3	21.0	408	M3	mg/L		-2	70 - 130	1	20

Lab Sample ID: MB 280-609401/1-A
Matrix: Water
Analysis Batch: 610724

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 609401

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		04/21/23 07:59	04/28/23 18:37	1

Lab Sample ID: LCS 280-609401/2-A
Matrix: Water
Analysis Batch: 610724

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Lithium	1.00	1.02		mg/L		102	90 - 112

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 610724

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	
Lithium	0.073		1.00	1.12		mg/L		105	70 - 130	

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 610724

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 609401

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Lithium	0.073		1.00	1.11		mg/L		104	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-298881/1-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298881

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/23 04:23	05/18/23 20:34	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/23 04:23	05/18/23 20:34	1

Lab Sample ID: LCS 550-298881/2-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Arsenic	0.100	0.0975		mg/L		98	85 - 115
Cobalt	0.100	0.102		mg/L		102	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-298881/3-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0944		mg/L		94	85 - 115	3	20
Cobalt	0.100	0.0979		mg/L		98	85 - 115	4	20

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:32	05/25/23 18:13	1
Barium	0.000261	E4	0.00050	0.00026	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:32	05/25/23 18:13	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:32	05/25/23 18:13	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:32	05/25/23 18:13	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:32	05/25/23 18:13	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:32	05/25/23 18:13	1

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		04/27/23 07:32	05/31/23 19:50	1

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0897		mg/L		90	85 - 115
Arsenic	0.100	0.0934		mg/L		93	85 - 115
Barium	0.100	0.0930		mg/L		93	85 - 115
Cadmium	0.100	0.0958		mg/L		96	85 - 115
Chromium	0.100	0.0928		mg/L		93	85 - 115
Cobalt	0.100	0.0946		mg/L		95	85 - 115
Lead	0.100	0.0973		mg/L		97	85 - 115
Molybdenum	0.100	0.0989		mg/L		99	85 - 115
Thallium	0.100	0.0957		mg/L		96	85 - 115

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0965		mg/L		96	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Antimony	0.100	0.0897		mg/L		90	85 - 115	0	20	
Arsenic	0.100	0.0943		mg/L		94	85 - 115	1	20	
Barium	0.100	0.0943		mg/L		94	85 - 115	1	20	
Cadmium	0.100	0.0966		mg/L		97	85 - 115	1	20	
Chromium	0.100	0.0952		mg/L		95	85 - 115	3	20	
Cobalt	0.100	0.0967		mg/L		97	85 - 115	2	20	
Lead	0.100	0.0991		mg/L		99	85 - 115	2	20	
Molybdenum	0.100	0.0985		mg/L		99	85 - 115	0	20	
Thallium	0.100	0.0989		mg/L		99	85 - 115	3	20	

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Selenium	0.100	0.0966		mg/L		97	85 - 115	0	20	

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 301151

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Antimony	ND	E8	0.100	0.105		mg/L		105	70 - 130			
Arsenic	0.0032	E4	0.100	0.105		mg/L		102	70 - 130			
Barium	0.035		0.100	0.135		mg/L		100	70 - 130			
Cadmium	ND	E8	0.100	0.100		mg/L		100	70 - 130			
Chromium	ND	E8	0.100	0.0985		mg/L		98	70 - 130			
Cobalt	ND	E8	0.100	0.0964		mg/L		96	70 - 130			
Lead	ND	E8	0.100	0.0958		mg/L		96	70 - 130			
Molybdenum	ND	E8	0.100	0.110		mg/L		110	70 - 130			
Thallium	0.00031	E4	0.100	0.0965		mg/L		96	70 - 130			

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 301436

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Selenium	ND	E8	0.100	0.126		mg/L		126	70 - 130			

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 301151

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Antimony	ND	E8	0.100	0.104		mg/L		104	70 - 130	2	20	
Arsenic	0.0032	E4	0.100	0.100		mg/L		97	70 - 130	4	20	
Barium	0.035		0.100	0.139		mg/L		104	70 - 130	3	20	
Cadmium	ND	E8	0.100	0.0996		mg/L		100	70 - 130	1	20	
Chromium	ND	E8	0.100	0.0937		mg/L		94	70 - 130	5	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 301151

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Cobalt	ND	E8	0.100	0.0936		mg/L		94	70 - 130	3	20	
Lead	ND	E8	0.100	0.0955		mg/L		96	70 - 130	0	20	
Molybdenum	ND	E8	0.100	0.108		mg/L		108	70 - 130	2	20	
Thallium	0.00031	E4	0.100	0.0933		mg/L		93	70 - 130	3	20	

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 301436

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Selenium	ND	E8	0.100	0.111		mg/L		111	70 - 130	13	20	

Lab Sample ID: 550-200842-2 MS
Matrix: Water
Analysis Batch: 300630

Client Sample ID: CH-CCR-FD02-0423
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample		Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Arsenic	ND	E8	0.100	0.103		mg/L		103	70 - 130			
Cobalt	0.011		0.100	0.111		mg/L		100	70 - 130			

Lab Sample ID: 550-200842-2 MSD
Matrix: Water
Analysis Batch: 300630

Client Sample ID: CH-CCR-FD02-0423
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample		Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Arsenic	ND	E8	0.100	0.0995		mg/L		100	70 - 130	3	20	
Cobalt	0.011		0.100	0.109		mg/L		98	70 - 130	2	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-298681/1-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298681

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		04/20/23 16:04	04/20/23 18:48	1

Lab Sample ID: LCS 550-298681/2-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Mercury	0.00500	0.00457		mg/L		91	85 - 115	

Lab Sample ID: LCSD 550-298681/3-A
Matrix: Water
Analysis Batch: 298707

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Mercury	0.00500	0.00454		mg/L		91	85 - 115	1 20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-200842-7 MS
Matrix: Water
Analysis Batch: 298707

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00516		mg/L		103	70 - 130

Lab Sample ID: 550-200842-7 MSD
Matrix: Water
Analysis Batch: 298707

Client Sample ID: CH-CCR-W317-0423
Prep Type: Total/NA
Prep Batch: 298681

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00507		mg/L		101	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-298856/60
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			04/24/23 11:15	1

Lab Sample ID: LCS 550-298856/61
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	1.02		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-298856/62
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-201048-F-1 MS
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.1		1.00	1.98		mg/L		92	90 - 110

Lab Sample ID: 550-201048-F-1 MSD
Matrix: Water
Analysis Batch: 298856

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.1		1.00	2.11		mg/L		105	90 - 110	6	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-609489/60
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			04/20/23 11:46	1

Lab Sample ID: LCS 280-609489/59
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.91		mg/L		98	90 - 110

Lab Sample ID: 280-175038-D-8 MS
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.4		4.00	5.48		mg/L		101	90 - 110

Lab Sample ID: 280-175038-D-8 MSD
Matrix: Water
Analysis Batch: 609489

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.4		4.00	5.56		mg/L		103	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-298888/3
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/23 13:54	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1

Lab Sample ID: LCS 550-298888/4
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	266		mg/L		107	90 - 110

Lab Sample ID: LCSD 550-298888/17
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110	7	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-200842-5 DU
Matrix: Water
Analysis Batch: 298888

Client Sample ID: CH-CCR-MW79A-0423
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				
Alkalinity as CaCO3	120		122		mg/L		0.7	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	120		122		mg/L		0.7	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-298495/1
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			04/18/23 18:02	1

Lab Sample ID: LCS 550-298495/2
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Total Dissolved Solids	1000	958		mg/L		96	90 - 110	

Lab Sample ID: LCSD 550-298495/3
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
		Result	Qualifier						Limit	
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10	

Lab Sample ID: 550-200842-7 DU
Matrix: Water
Analysis Batch: 298495

Client Sample ID: CH-CCR-FD04-0423
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	7000		6930		mg/L		1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-298680/37
Matrix: Water
Analysis Batch: 298680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
pH	7.00	7.0		SU		99.7	98.5 - 101.5	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-298680/49
Matrix: Water
Analysis Batch: 298680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: 550-200842-1 DU
Matrix: Water
Analysis Batch: 298680

Client Sample ID: CH-CCR-FD02-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	H5	7.8	H5	SU		0.4	5
Temperature	15.4	H5 T5	15.7	H5	Degrees C		2	

Lab Sample ID: LCSSRM 550-299146/25
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299146/37
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: 550-200842-7 DU
Matrix: Water
Analysis Batch: 299146

Client Sample ID: CH-CCR-FD04-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	H5	7.5	H5	SU		0.1	5
Temperature	15.7	H5 T5	15.7	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-298642/1-A
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/19/23 15:34	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/19/23 15:34	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/19/23 15:34	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-298644/5
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/19/23 12:38	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/19/23 12:38	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/19/23 12:38	1

Lab Sample ID: LCS 550-298644/18
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	21.9		mg/L		109	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.9		mg/L		109	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.9		mg/L		109	90 - 110

Lab Sample ID: LCSD 550-298644/19
Matrix: Water
Analysis Batch: 298644

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	21.9		mg/L		110	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	21.9		mg/L		110	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	21.9		mg/L		110	90 - 110	0	20

Lab Sample ID: MB 550-298654/5
Matrix: Water
Analysis Batch: 298654

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/20/23 11:21	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/20/23 11:21	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/20/23 11:21	1

Lab Sample ID: LCS 550-298654/6
Matrix: Water
Analysis Batch: 298654

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	21.3		mg/L		106	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.3		mg/L		106	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.3		mg/L		106	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 550-298654/7
Matrix: Water
Analysis Batch: 298654

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	21.4		mg/L		107	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	21.4		mg/L		107	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	21.4		mg/L		107	90 - 110	0	20

Lab Sample ID: 550-200842-1 MS
Matrix: Water
Analysis Batch: 298654

Client Sample ID: CH-CCR-FD02-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.3	T5	20.0	21.7		mg/L		102	90 - 110		
Dissolved Organic Carbon - Duplicate	1.4	T5	20.0	21.7		mg/L		102	90 - 110		
Dissolved Organic Carbon - Quad	1.3	T5	20.0	21.7		mg/L		102	90 - 110		

Lab Sample ID: 550-200842-1 MSD
Matrix: Water
Analysis Batch: 298654

Client Sample ID: CH-CCR-FD02-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.3	T5	20.0	21.2		mg/L		100	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	1.4	T5	20.0	21.2		mg/L		99	90 - 110	2	20
Dissolved Organic Carbon - Quad	1.3	T5	20.0	21.2		mg/L		100	90 - 110	2	20

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 298417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	300.0	
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	300.0	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	300.0	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	300.0	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	300.0	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	300.0	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	300.0	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	300.0	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	300.0	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	300.0	
MB 550-298417/2	Method Blank	Total/NA	Water	300.0	
LCS 550-298417/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-298417/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	300.0	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	300.0	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	300.0	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	300.0	

Metals

Prep Batch: 298512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-2	CH-CCR-FD02-0423	Dissolved	Water	200.7	
550-200842-4	CH-CCR-W305-0423	Dissolved	Water	200.7	
550-200842-6	CH-CCR-MW79A-0423	Dissolved	Water	200.7	
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-200839-E-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-200839-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 298513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.7	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.7	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.7	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.7	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.7	
MB 550-298513/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298513/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298513/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.7	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.7	

Prep Batch: 298681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	245.1	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	245.1	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	245.1	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	245.1	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	245.1	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 298681 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-298681/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-298681/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-298681/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	245.1	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	245.1	

Analysis Batch: 298707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	245.1	298681
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	245.1	298681
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	245.1	298681
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	245.1	298681
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	245.1	298681
MB 550-298681/1-A	Method Blank	Total/NA	Water	245.1	298681
LCS 550-298681/2-A	Lab Control Sample	Total/NA	Water	245.1	298681
LCSD 550-298681/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	298681
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	245.1	298681
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	245.1	298681

Prep Batch: 298881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-2	CH-CCR-FD02-0423	Dissolved	Water	200.8	
550-200842-4	CH-CCR-W305-0423	Dissolved	Water	200.8	
550-200842-6	CH-CCR-MW79A-0423	Dissolved	Water	200.8	
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-2 MS	CH-CCR-FD02-0423	Dissolved	Water	200.8	
550-200842-2 MSD	CH-CCR-FD02-0423	Dissolved	Water	200.8	

Analysis Batch: 298953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.7 Rev 4.4	298513
MB 550-298513/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298513
LCS 550-298513/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298513
LCSD 550-298513/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	298513

Prep Batch: 299086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.8	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.8	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.8	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.8	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.8	
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8	

Eurofins Phoenix

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 299086 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.8	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.8	

Analysis Batch: 299290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-2	CH-CCR-FD02-0423	Dissolved	Water	200.7	298512
550-200842-4	CH-CCR-W305-0423	Dissolved	Water	200.7	298512
550-200842-6	CH-CCR-MW79A-0423	Dissolved	Water	200.7	298512
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7	298512
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7	298512
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	298512
550-200839-E-2-A MS	Matrix Spike	Total/NA	Water	200.7	298512
550-200839-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	298512

Analysis Batch: 299291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.7 Rev 4.4	298513
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.7 Rev 4.4	298513

Analysis Batch: 300630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-2	CH-CCR-FD02-0423	Dissolved	Water	200.8 LL	298881
550-200842-4	CH-CCR-W305-0423	Dissolved	Water	200.8 LL	298881
550-200842-6	CH-CCR-MW79A-0423	Dissolved	Water	200.8 LL	298881
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8 LL	298881
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	298881
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	298881
550-200842-2 MS	CH-CCR-FD02-0423	Dissolved	Water	200.8 LL	298881
550-200842-2 MSD	CH-CCR-FD02-0423	Dissolved	Water	200.8 LL	298881

Analysis Batch: 301151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.8 LL	299086
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.8 LL	299086
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.8 LL	299086
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086

Analysis Batch: 301436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.8 LL	299086
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.8 LL	299086
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.8 LL	299086

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 301436 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.8 LL	299086

Prep Batch: 609401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.7	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.7	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.7	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.7	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.7	
MB 280-609401/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-609401/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.7	
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.7	

Analysis Batch: 610724

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	200.7 Rev 4.4	609401
MB 280-609401/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	609401
LCS 280-609401/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-7 MS	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	609401
550-200842-7 MSD	CH-CCR-W317-0423	Total/NA	Water	200.7 Rev 4.4	609401

General Chemistry

Analysis Batch: 298495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	SM 2540C	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	SM 2540C	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	SM 2540C	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	SM 2540C	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	SM 2540C	
MB 550-298495/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298495/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298495/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-200842-7 DU	CH-CCR-FD04-0423	Total/NA	Water	SM 2540C	

Filtration Batch: 298642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-298642/1-A	Method Blank	Dissolved	Water	Filtration	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry

Analysis Batch: 298644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-3	CH-CCR-W305-0423	Dissolved	Water	SM 5310B	
550-200842-5	CH-CCR-MW79A-0423	Dissolved	Water	SM 5310B	
MB 550-298642/1-A	Method Blank	Dissolved	Water	SM 5310B	298642
MB 550-298644/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-298644/18	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-298644/19	Lab Control Sample Dup	Dissolved	Water	SM 5310B	

Analysis Batch: 298654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Dissolved	Water	SM 5310B	
MB 550-298654/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-298654/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-298654/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-200842-1 MS	CH-CCR-FD02-0423	Dissolved	Water	SM 5310B	
550-200842-1 MSD	CH-CCR-FD02-0423	Dissolved	Water	SM 5310B	

Analysis Batch: 298680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	SM 4500 H+ B	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	SM 4500 H+ B	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	SM 4500 H+ B	
550-200842-7	CH-CCR-W317-0423	Total/NA	Water	SM 4500 H+ B	
550-200842-8	CH-CCR-FD04-0423	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200842-1 DU	CH-CCR-FD02-0423	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 298856

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	350.1	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	350.1	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	350.1	
MB 550-298856/60	Method Blank	Total/NA	Water	350.1	
LCS 550-298856/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-298856/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-201048-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-201048-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 298888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	SM 2320B	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	SM 2320B	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	SM 2320B	
MB 550-298888/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-298888/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-298888/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-200842-5 DU	CH-CCR-MW79A-0423	Total/NA	Water	SM 2320B	

Analysis Batch: 299146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-299146/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299146 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-299146/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200842-7 DU	CH-CCR-FD04-0423	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 609489

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200842-1	CH-CCR-FD02-0423	Total/NA	Water	353.2	
550-200842-3	CH-CCR-W305-0423	Total/NA	Water	353.2	
550-200842-5	CH-CCR-MW79A-0423	Total/NA	Water	353.2	
MB 280-609489/60	Method Blank	Total/NA	Water	353.2	
LCS 280-609489/59	Lab Control Sample	Total/NA	Water	353.2	
280-175038-D-8 MS	Matrix Spike	Total/NA	Water	353.2	
280-175038-D-8 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-0423
Date Collected: 04/14/23 13:20
Date Received: 04/17/23 13:36

Lab Sample ID: 550-200842-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	298417	AS1	EET PHX	04/17/23 20:35
Total/NA	Analysis	300.0		200	298417	AS1	EET PHX	04/17/23 20:54
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:31
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:12
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610724	ADL	EET DEN	04/28/23 18:45
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:28
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:03
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:00
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:51
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:14
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 15:38
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:56
Dissolved	Analysis	SM 5310B		1	298654	RDC	EET PHX	04/20/23 12:06

Client Sample ID: CH-CCR-FD02-0423
Date Collected: 04/14/23 13:20
Date Received: 04/17/23 13:36

Lab Sample ID: 550-200842-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:30
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/18/23 20:44

Client Sample ID: CH-CCR-W305-0423
Date Collected: 04/14/23 15:39
Date Received: 04/17/23 13:36

Lab Sample ID: 550-200842-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	298417	AS1	EET PHX	04/17/23 21:12
Total/NA	Analysis	300.0		200	298417	AS1	EET PHX	04/17/23 21:31
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:34
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:15
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610724	ADL	EET DEN	04/28/23 18:49

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-3

Date Collected: 04/14/23 15:39

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:30
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:05
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:02
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:53
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:16
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 15:45
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:59
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 17:01

Client Sample ID: CH-CCR-W305-0423

Lab Sample ID: 550-200842-4

Date Collected: 04/14/23 15:39

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:33
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/18/23 20:46

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-5

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	298417	AS1	EET PHX	04/18/23 00:35
Total/NA	Analysis	300.0		200	298417	AS1	EET PHX	04/18/23 00:53
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:37
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		5	299291	GLW	EET PHX	04/28/23 20:18
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610724	ADL	EET DEN	04/28/23 18:53
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:32
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:07
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:04
Total/NA	Analysis	350.1		1	298856	MAN	EET PHX	04/24/23 11:54
Total/NA	Analysis	353.2		1	609489	ZPM	EET DEN	04/20/23 12:18

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-5

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 16:05
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:01
Dissolved	Analysis	SM 5310B		1	298644	RDC	EET PHX	04/19/23 17:18

Client Sample ID: CH-CCR-MW79A-0423

Lab Sample ID: 550-200842-6

Date Collected: 04/14/23 16:43

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Dissolved	Analysis	200.7		1	299290	GLW	EET PHX	04/28/23 19:35
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/18/23 20:48

Client Sample ID: CH-CCR-W317-0423

Lab Sample ID: 550-200842-7

Date Collected: 04/14/23 18:11

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	298417	AS1	EET PHX	04/17/23 22:44
Total/NA	Analysis	300.0		200	298417	AS1	EET PHX	04/17/23 23:39
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:28
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610724	ADL	EET DEN	04/28/23 18:57
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:26
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:01
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 18:58
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:02

Client Sample ID: CH-CCR-FD04-0423

Lab Sample ID: 550-200842-8

Date Collected: 04/14/23 12:34

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	298417	AS1	EET PHX	04/18/23 01:11
Total/NA	Analysis	300.0		200	298417	AS1	EET PHX	04/18/23 01:30
Total/NA	Prep	200.7			298513	SGO	EET PHX	04/19/23 06:24
Total/NA	Analysis	200.7 Rev 4.4		1	298953	GLW	EET PHX	04/25/23 15:40

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-0423

Lab Sample ID: 550-200842-8

Date Collected: 04/14/23 12:34

Matrix: Water

Date Received: 04/17/23 13:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			609401	LJS	EET DEN	04/21/23 07:59
Total/NA	Analysis	200.7 Rev 4.4		1	610724	ADL	EET DEN	04/28/23 19:25
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 18:34
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:09
Total/NA	Prep	245.1			298681	SRR	EET PHX	04/20/23 16:04
Total/NA	Analysis	245.1		1	298707	SRR	EET PHX	04/20/23 19:06
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 14:03

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-09-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	05-22-23

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200842-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency
 SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
 EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



TestAmerica Phoenix

Chain of Custody Record



4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

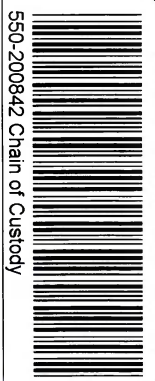
Regulatory Program: DW NPDES RCRA Other: CCR

200842

TestAmerica Laboratories, Inc.

Client Contact: **Natalie Chrisman Lazair** (602) 250-3608
 Analysis Turnaround Time: CALENDAR DAYS WORKING DAYS
 TAT if different from Below: 2 weeks 1 week 2 days 1 day
 Project Name: CCR Groundwater Monitoring
 Site: APS Cholla Power Plant (BAP)
 PO #: 30052358

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sampler:	For Lab Use Only:	Walk-In Client:	Lab Sampling:	Job / SDG No.:		
CH-CCR-FD02-0423	04/14/23	142	G	W	10	* N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7.3c	Low Flow				
CH-CCR-W305-0423	04/14/23	344	G	W	10	* X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	9.3c	"				
CH-CCR-MW79A-0423	04/14/23	546	G	W	10	* X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7.3c	"				
CH-CCR-W317-0423	04/14/23	7	G	W	3	N Y	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7.3c	Low Flow, MSMSD				
CH-CCR-FD04-0423	04/14/23	8	G	W	3	N N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	7.3c	"				



550-200842 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments:
 Non-Hazard Flammable Skin Irritant Poison B Unknown

Perform Method 200.8 with collision cell. * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

7319.3

Custody Seals Intact: Yes No
 Relinquished by: *Rad Harrison* Company: *WSP* Date/Time: *13 April 23 08:00*
 Relinquished by: *[Signature]* Company: *[Blank]* Date/Time: *4/17/23 13:30*
 Relinquished by: *[Signature]* Company: *EETA PHX* Date/Time: *4/17/23 13:30*

PC

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-200842-2
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 200842

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 6/13/2023 4:28:28 PM Revision 1

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAP)

JOB NUMBER

550-201150-1

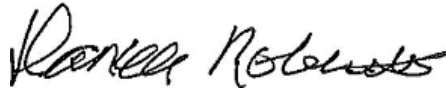
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-201150-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-201150-1

Comments

No additional comments.

Receipt

The samples were received on 4/21/2023 2:43 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.1° C.

HPLC/IC

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-M52A-0423 (550-201150-1), CH-CCR-M55A-0423 (550-201150-5), CH-CCR-MW69A-0423 (550-201150-7), CH-CCR-MW70M-0423 (550-201150-9) and CH-CCR-MW74M-0423 (550-201150-17). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following sample was diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-MW72M-0423 (550-201150-13). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-W125-0423 (550-201150-39) and CH-CCR-BudHunt-0423 (550-201150-40). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-W301-0423 (550-201150-19), CH-CCR-W303-0423 (550-201150-21), CH-CCR-W306-0423 (550-201150-23), CH-CCR-W308-0423 (550-201150-25), CH-CCR-W309-0423 (550-201150-27) and CH-CCR-M64A-0423 (550-201150-35). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-W314-0423 (550-201150-29), CH-CCR-M50A-0423 (550-201150-31), CH-CCR-M51A-0423 (550-201150-33) and CH-CCR-W123R-0423 (550-201150-37). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-299621 recovered above the upper control limit for Beryllium and Sodium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

CH-CCR-M52A-0423 (550-201150-1), CH-CCR-M53A-0423 (550-201150-3), CH-CCR-M55A-0423 (550-201150-5), CH-CCR-MW69A-0423 (550-201150-7), CH-CCR-MW70M-0423 (550-201150-9), CH-CCR-MW71A-0423 (550-201150-11),

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-201150-1 (Continued)

Laboratory: Eurofins Phoenix (Continued)

CH-CCR-MW73A-0423 (550-201150-15), CH-CCR-MW74M-0423 (550-201150-17), CH-CCR-W301-0423 (550-201150-19), CH-CCR-W303-0423 (550-201150-21), CH-CCR-W306-0423 (550-201150-23), CH-CCR-W308-0423 (550-201150-25), CH-CCR-W309-0423 (550-201150-27), CH-CCR-W314-0423 (550-201150-29), CH-CCR-M50A-0423 (550-201150-31), CH-CCR-M51A-0423 (550-201150-33), CH-CCR-M64A-0423 (550-201150-35), CH-CCR-W123R-0423 (550-201150-37) and CH-CCR-W125-0423 (550-201150-39)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 550-201150-2

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-201150-2

Receipt

The samples were received on 4/21/2023 2:43 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.1°C

Metals

Method 200.8_CWA_LL: The continuing calibration blank (CCB) for analytical batch 550-301273 contained Arsenic above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. CH-CCR-M53A-0423 (550-201150-3), CH-CCR-M55A-0423 (550-201150-5), CH-CCR-MW69A-0423 (550-201150-7), CH-CCR-MW70M-0423 (550-201150-9), CH-CCR-MW71A-0423 (550-201150-11), CH-CCR-MW74M-0423 (550-201150-17), CH-CCR-W303-0423 (550-201150-21), CH-CCR-W308-0423 (550-201150-25), CH-CCR-W309-0423 (550-201150-27), CH-CCR-W314-0423 (550-201150-29), CH-CCR-M64A-0423 (550-201150-35) and CH-CCR-BudHunt-0423 (550-201150-40)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-201150-1	CH-CCR-M52A-0423	Water	04/19/23 13:07	04/21/23 14:43
550-201150-2	CH-CCR-M52A-0423	Water	04/19/23 13:07	04/21/23 14:43
550-201150-3	CH-CCR-M53A-0423	Water	04/19/23 10:38	04/21/23 14:43
550-201150-4	CH-CCR-M53A-0423	Water	04/19/23 10:38	04/21/23 14:43
550-201150-5	CH-CCR-M55A-0423	Water	04/20/23 15:47	04/21/23 14:43
550-201150-6	CH-CCR-M55A-0423	Water	04/20/23 15:47	04/21/23 14:43
550-201150-7	CH-CCR-MW69A-0423	Water	04/19/23 14:10	04/21/23 14:43
550-201150-8	CH-CCR-MW69A-0423	Water	04/19/23 14:10	04/21/23 14:43
550-201150-9	CH-CCR-MW70M-0423	Water	04/19/23 15:20	04/21/23 14:43
550-201150-10	CH-CCR-MW70M-0423	Water	04/19/23 15:20	04/21/23 14:43
550-201150-11	CH-CCR-MW71A-0423	Water	04/19/23 17:34	04/21/23 14:43
550-201150-12	CH-CCR-MW71A-0423	Water	04/19/23 17:34	04/21/23 14:43
550-201150-13	CH-CCR-MW72M-0423	Water	04/19/23 16:24	04/21/23 14:43
550-201150-14	CH-CCR-MW72M-0423	Water	04/19/23 16:24	04/21/23 14:43
550-201150-15	CH-CCR-MW73A-0423	Water	04/20/23 10:11	04/21/23 14:43
550-201150-16	CH-CCR-MW73A-0423	Water	04/20/23 10:11	04/21/23 14:43
550-201150-17	CH-CCR-MW74M-0423	Water	04/20/23 11:08	04/21/23 14:43
550-201150-18	CH-CCR-MW74M-0423	Water	04/20/23 11:08	04/21/23 14:43
550-201150-19	CH-CCR-W301-0423	Water	04/18/23 17:01	04/21/23 14:43
550-201150-20	CH-CCR-W301-0423	Water	04/18/23 17:01	04/21/23 14:43
550-201150-21	CH-CCR-W303-0423	Water	04/18/23 18:09	04/21/23 14:43
550-201150-22	CH-CCR-W303-0423	Water	04/18/23 18:09	04/21/23 14:43
550-201150-23	CH-CCR-W306-0423	Water	04/19/23 11:25	04/21/23 14:43
550-201150-24	CH-CCR-W306-0423	Water	04/19/23 11:25	04/21/23 14:43
550-201150-25	CH-CCR-W308-0423	Water	04/20/23 17:18	04/21/23 14:43
550-201150-26	CH-CCR-W308-0423	Water	04/20/23 17:18	04/21/23 14:43
550-201150-27	CH-CCR-W309-0423	Water	04/20/23 14:46	04/21/23 14:43
550-201150-28	CH-CCR-W309-0423	Water	04/20/23 14:46	04/21/23 14:43
550-201150-29	CH-CCR-W314-0423	Water	04/20/23 12:24	04/21/23 14:43
550-201150-30	CH-CCR-W314-0423	Water	04/20/23 12:24	04/21/23 14:43
550-201150-31	CH-CCR-M50A-0423	Water	04/17/23 15:20	04/21/23 14:43
550-201150-32	CH-CCR-M50A-0423	Water	04/17/23 15:20	04/21/23 14:43
550-201150-33	CH-CCR-M51A-0423	Water	04/17/23 14:14	04/21/23 14:43
550-201150-34	CH-CCR-M51A-0423	Water	04/17/23 14:14	04/21/23 14:43
550-201150-35	CH-CCR-M64A-0423	Water	04/17/23 12:15	04/21/23 14:43
550-201150-36	CH-CCR-M64A-0423	Water	04/17/23 12:15	04/21/23 14:43
550-201150-37	CH-CCR-W123R-0423	Water	04/17/23 17:47	04/21/23 14:43
550-201150-38	CH-CCR-W123R-0423	Water	04/17/23 17:47	04/21/23 14:43
550-201150-39	CH-CCR-W125-0423	Water	04/17/23 16:44	04/21/23 14:43
550-201150-40	CH-CCR-BudHunt-0423	Water	04/19/23 09:18	04/21/23 14:43
550-201150-41	CH-CCR-BudHunt-0423	Water	04/19/23 09:18	04/21/23 14:43

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.34		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.6		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	830	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	12	M3	0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.4		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0	M1	0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.017		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00061	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.0085	E4	0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Cobalt	0.038		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.035		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0046	E4	0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.8	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.8	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	11	M3	0.10	mg/L	1		200.7	Dissolved
Manganese	2.2		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.040		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	2.4	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	3100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.0017	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.0083		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.0013		0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0084		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.033		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00041	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.23		0.050	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.3		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.0094		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4500	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.49		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.44		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	180		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.5		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.0012	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.014		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00030	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.010		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0050		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.11		0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.00017	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.63		0.10	mg/L	1		353.2	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.7	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-6

No Detections.

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.31		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.26		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.0010	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.014		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00024	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.019		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Cobalt	0.012		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.018		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-0423 (Continued)

Lab Sample ID: 550-201150-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.095		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.014		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2900	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	180		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00088	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.014		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00071	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.011		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Cobalt	0.017		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.035		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00019	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	92		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	92		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	mg/L	1		200.7	Dissolved
Manganese	1.7		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.022		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	3.1	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	3000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.6		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00074	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.011		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00032	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Cobalt	0.015		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.032		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Thallium	0.00014	E4	0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.37		0.050	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7400		100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	5.2		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.016		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	37000	D2	2000	mg/L	1000		300.0	Total/NA
Sulfate	1200	D2	200	mg/L	100		300.0	Total/NA
Lithium	5.3		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	8500		40	mg/L	20		200.7 Rev 4.4	Total/NA
Magnesium	1100		10	mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	3.5		0.050	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	140		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	12000		10	mg/L	20		200.7 Rev 4.4	Total/NA
Antimony	0.0014	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Arsenic	0.0095		0.0050	0.0025 mg/L	10		200.8 LL	Total/NA
Barium	0.15		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00063	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.043		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0032	E4	0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.023		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.013		0.0050	0.00074 mg/L	10		200.8 LL	Total/NA
Thallium	0.0018		0.0010	0.00013 mg/L	10		200.8 LL	Total/NA
Ammonia	0.77		0.050	mg/L	1		350.1	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0423 (Continued)

Lab Sample ID: 550-201150-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nitrate Nitrite as N	0.29		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	25		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	25		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	74000		1000	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.3		0.10	mg/L	10		200.7	Dissolved
Arsenic	0.0069		0.0050	0.0025 mg/L	10		200.8 LL	Dissolved
Cobalt	0.0041	E4	0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	2.0	mg/L	5		300.0	Total/NA
Sulfate	3300	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	600		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.3		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	310		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.92		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00062	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.0097		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Chromium	0.33		0.020	0.0087 mg/L	20		200.8 LL	Total/NA
Cobalt	0.016		0.010	0.0013 mg/L	20		200.8 LL	Total/NA
Molybdenum	0.058		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0067	E4	0.010	0.0015 mg/L	20		200.8 LL	Total/NA
Nitrate Nitrite as N	0.27		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8300		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.92		0.10	mg/L	1		200.7	Dissolved
Manganese	0.51		0.010	mg/L	1		200.7	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-0423 (Continued)

Lab Sample ID: 550-201150-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.016		0.0050	0.00063	mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400		mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.24		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.3		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	150		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.14		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00050	E4	0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Barium	0.0086		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00026	E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Cobalt	0.014		0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.040		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	84		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	84		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400		100		mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	17.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.19		0.10		mg/L	1		200.7	Dissolved
Manganese	0.12		0.010		mg/L	1		200.7	Dissolved
Cobalt	0.016		0.0050	0.00063	mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5700	D2	400		mg/L	200		300.0	Total/NA
Sulfate	3800	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.63		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.70		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	850		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.19		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00056	E4	0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Barium	0.0096		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00025	E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Chromium	0.0085	E4	0.010	0.0043	mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-0423 (Continued)

Lab Sample ID: 550-201150-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.027		0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0076		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Thallium	0.00014	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	13		1.0		mg/L	10		353.2	Total/NA
Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000		200		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	17.6	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.4	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.4	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.4	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.13		0.10		mg/L	1		200.7	Dissolved
Manganese	1.4		0.010		mg/L	1		200.7	Dissolved
Cobalt	0.022		0.0050	0.00063	mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2900	D2	400		mg/L	200		300.0	Total/NA
Sulfate	3400	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.30		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.1		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.23		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600		5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00049	E4	0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Arsenic	0.0027		0.0050	0.0025	mg/L	10		200.8 LL	Total/NA
Barium	0.0044	E4	0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Chromium	0.041		0.010	0.0043	mg/L	10		200.8 LL	Total/NA
Cobalt	0.020		0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.027		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.11		0.10		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9200		100		mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	17.8	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.7	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7	T5	0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.024		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.019		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	20	mg/L	10		300.0	Total/NA
Sulfate	12000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.81		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.19		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.018		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.2		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00066	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.015		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00026	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.056		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000		200	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.012		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.0029	E4	0.0050	0.0025 mg/L	10		200.8 LL	Dissolved
Cobalt	0.0015	E4	0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.45		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	850		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.11		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2400		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00080	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.012		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Chromium	0.012		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0030	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-0423 (Continued)

Lab Sample ID: 550-201150-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.00013	E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.12		0.10		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	180		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	180		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8800		100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	18.7	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10		mg/L	1		200.7	Dissolved
Manganese	0.10		0.010		mg/L	1		200.7	Dissolved
Cobalt	0.0013	E4	0.0050	0.00063	mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W309-0423

Lab Sample ID: 550-201150-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	20		mg/L	10		300.0	Total/NA
Sulfate	3100	D2	400		mg/L	200		300.0	Total/NA
Lithium	0.37		0.020		mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.49		0.050		mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.15		0.10		mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	100		2.0		mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.60		0.010		mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.9		0.50		mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		5.0		mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0071		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Chromium	0.011		0.010	0.0043	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0084		0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Selenium	0.15		0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	2.7		0.10		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	170		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200		100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	18.7	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.90	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.90	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.90	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-0423

Lab Sample ID: 550-201150-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.43		0.010		mg/L	1		200.7	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.30		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.24		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.0096		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cadmium	0.00053	E4	0.0010	0.00023 mg/L	10		200.8 LL	Total/NA
Chromium	0.014		0.010	0.0043 mg/L	10		200.8 LL	Total/NA
Cobalt	0.042		0.0050	0.00063 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.013		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	7300		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.21		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.047		0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	20	mg/L	10		300.0	Total/NA
Sulfate	3000	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.18		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.40		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.6		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00043	E4	0.010	0.00043 mg/L	10		200.8 LL	Total/NA
Barium	0.0090		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0080		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.3	T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.35		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.00069	E4	0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-33

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4800	D2	400	mg/L	200		300.0	Total/NA
Fluoride	5.8	D1	4.0	mg/L	10		300.0	Total/NA
Sulfate	2800	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	29		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	870		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.59		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	29		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3200		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.018		0.010	0.0049 mg/L	20		200.8 LL	Total/NA
Barium	0.0076		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Cobalt	0.0022	E4	0.010	0.0013 mg/L	20		200.8 LL	Total/NA
Molybdenum	0.22		0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Selenium	0.0067	E4	0.010	0.0015 mg/L	20		200.8 LL	Total/NA
Ammonia	0.057		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.16		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	82		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	82		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-34

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.55		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.023		0.0050	0.0025 mg/L	10		200.8 LL	Dissolved
Cobalt	0.0021	E4	0.0050	0.00063 mg/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-35

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4200	D2	50	mg/L	25		300.0	Total/NA
Sulfate	3700	D2	50	mg/L	25		300.0	Total/NA
Lithium	0.29		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	640		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	7.2		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3800		5.0	mg/L	10		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M64A-0423 (Continued)

Lab Sample ID: 550-201150-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0037		0.0050	0.0025	mg/L	10		200.8 LL	Total/NA
Barium	0.014		0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0044	E4	0.0050	0.0020	mg/L	10		200.8 LL	Total/NA
Ammonia	0.86		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	420		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	420		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		200		mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	17.9	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	6.0	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	6.0	T5	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	6.0	T5	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-36

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	6.0		0.10	mg/L	1		200.7	Dissolved
Manganese	2.1		0.010	mg/L	1		200.7	Dissolved

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-37

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5700	D2	400	mg/L	200		300.0	Total/NA
Fluoride	5.9	D1	4.0	mg/L	10		300.0	Total/NA
Sulfate	3300	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	40		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	37		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4000		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.012		0.0050	0.0026	mg/L	10	200.8 LL	Total/NA
Cobalt	0.0031	E4	0.0050	0.00063	mg/L	10	200.8 LL	Total/NA
Molybdenum	0.27		0.0050	0.0020	mg/L	10	200.8 LL	Total/NA
Thallium	0.00024	E4	0.0010	0.00013	mg/L	10	200.8 LL	Total/NA
Ammonia	1.3		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	47		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	47		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000		200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-38

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.2		0.010	mg/L	1		200.7	Dissolved
Cobalt	0.0040	E4	0.0050	0.00063	mg/L	10	200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W125-0423

Lab Sample ID: 550-201150-39

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	690	D2	400	mg/L	200		300.0	Total/NA
Sulfate	320	D2	4.0	mg/L	2		300.0	Total/NA
Boron	0.18		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.020		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0023	E4	0.0050	0.0020 mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	1800		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	18.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-40

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	320	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	260	D2	4.0	mg/L	2		300.0	Total/NA
Boron	0.11		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	99		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	44		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	240		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0025		0.0050	0.0025 mg/L	10		200.8 LL	Total/NA
Barium	0.012		0.0050	0.0026 mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	19.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.91	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.91	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.91	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-41

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-1

Date Collected: 04/19/23 13:07

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	400	mg/L			05/01/23 14:17	200
Fluoride	ND	D1 D5	4.0	mg/L			05/01/23 13:58	10
Sulfate	2600	D2	400	mg/L			05/01/23 14:17	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:06	1
Lithium	0.34		0.020	mg/L		04/28/23 07:53	05/03/23 18:37	1
Boron	4.6		0.050	mg/L		04/26/23 09:38	05/04/23 03:06	1
Calcium	830	M3	2.0	mg/L		04/26/23 09:38	05/05/23 03:26	1
Iron	12	M3	0.10	mg/L		04/26/23 09:38	05/04/23 03:06	1
Manganese	2.4		0.010	mg/L		04/26/23 09:38	05/04/23 03:06	1
Potassium	6.0	M1	0.50	mg/L		04/26/23 09:38	05/04/23 03:06	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:32	05/25/23 19:02	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:32	05/25/23 19:02	10
Barium	0.017		0.0050	0.0026	mg/L		04/27/23 07:32	05/25/23 19:02	10
Cadmium	0.00061	E4	0.0010	0.00023	mg/L		04/27/23 07:32	05/25/23 19:02	10
Chromium	0.0085	E4	0.010	0.0043	mg/L		04/27/23 07:32	05/25/23 19:02	10
Cobalt	0.038		0.0050	0.00063	mg/L		04/27/23 07:32	05/25/23 19:02	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:32	05/25/23 19:02	10
Molybdenum	0.035		0.0050	0.0020	mg/L		04/27/23 07:32	05/25/23 19:02	10
Selenium	0.0046	E4	0.0050	0.00074	mg/L		04/27/23 07:32	05/31/23 20:37	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:32	05/25/23 19:02	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND	M2	0.050	mg/L			04/26/23 11:45	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 11:57	1
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	6.9	H5	1.7	SU			04/27/23 14:22	1
Temperature (SM 4500 H+ B)	15.4	H5 T5	0.1	Degrees C			04/27/23 14:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.8	T5	0.50	mg/L			04/25/23 16:11	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.8	T5	0.50	mg/L			04/25/23 16:11	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.8	T5	0.50	mg/L			04/25/23 16:11	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-2

Date Collected: 04/19/23 13:07

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11	M3	0.10	mg/L		04/25/23 06:00	05/05/23 18:57	1
Manganese	2.2		0.010	mg/L		04/25/23 06:00	05/05/23 18:57	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:03	10
Cobalt	0.040		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:03	10

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-3

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	mg/L			05/01/23 14:53	200
Fluoride	2.4	D1	2.0	mg/L			05/01/23 14:35	5
Sulfate	3100	D2	400	mg/L			05/01/23 14:53	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:09	1
Lithium	0.23		0.020	mg/L		04/28/23 07:53	05/03/23 19:13	1
Boron	4.1		0.050	mg/L		04/26/23 09:38	05/04/23 03:09	1
Calcium	680		2.0	mg/L		04/26/23 09:38	05/05/23 03:29	1
Iron	0.17		0.10	mg/L		04/26/23 09:38	05/04/23 03:09	1
Manganese	5.2		0.010	mg/L		04/26/23 09:38	05/04/23 03:09	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0017	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:26	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:34	10
Barium	0.0083		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:26	10
Cadmium	0.0013		0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:26	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:26	10
Cobalt	0.0084		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:26	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:26	10
Molybdenum	0.033		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:26	10
Selenium	ND	E8 M2 R4	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:26	10
Thallium	0.00041	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:26	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.23		0.050	mg/L			04/26/23 11:50	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 11:59	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			04/27/23 14:23	1
Temperature (SM 4500 H+ B)	15.0	H5 T5	0.1	Degrees C			04/27/23 14:23	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-3

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 16:54	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 16:54	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 16:54	1

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-4

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:00	1
Manganese	4.3		0.010	mg/L		04/25/23 06:00	05/05/23 19:00	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:05	10
Cobalt	0.0094		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:05	10

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-5

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4500	D2	400	mg/L			05/01/23 15:30	200
Fluoride	ND	D1 D5	2.0	mg/L			05/01/23 15:12	5
Sulfate	3500	D2	400	mg/L			05/01/23 15:30	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:11	1
Lithium	0.49		0.020	mg/L		04/28/23 07:53	05/03/23 19:17	1
Boron	0.44		0.050	mg/L		04/26/23 09:38	05/04/23 03:11	1
Calcium	800		2.0	mg/L		04/26/23 09:38	05/05/23 03:32	1
Iron	0.16		0.10	mg/L		04/26/23 09:38	05/04/23 03:11	1
Magnesium	180		2.0	mg/L		04/26/23 09:38	05/04/23 03:11	1
Manganese	ND		0.010	mg/L		04/26/23 09:38	05/04/23 03:11	1
Potassium	2.5		0.50	mg/L		04/26/23 09:38	05/04/23 03:11	1
Sodium	3500		5.0	mg/L		04/26/23 09:38	05/08/23 21:46	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0012	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:28	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:36	10
Barium	0.014		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:28	10
Cadmium	0.00030	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:28	10
Chromium	0.010		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:28	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:28	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:28	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-5

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0050		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:28	10
Selenium	0.11		0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:28	10
Thallium	0.00017	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:28	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 11:51	1
Nitrate Nitrite as N (EPA 353.2)	0.63		0.10	mg/L			04/27/23 12:05	1
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:24	1
Temperature (SM 4500 H+ B)	15.1	H5 T5	0.1	Degrees C			04/27/23 14:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.7	T5	0.50	mg/L			04/25/23 17:11	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.7	T5	0.50	mg/L			04/25/23 17:11	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.7	T5	0.50	mg/L			04/25/23 17:11	1

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-6

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:03	1
Manganese	ND		0.010	mg/L		04/25/23 06:00	05/05/23 19:03	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:12	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:12	10

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-7

Date Collected: 04/19/23 14:10

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400	mg/L			05/01/23 17:02	200
Fluoride	ND	D1 D5	2.0	mg/L			05/01/23 16:44	5
Sulfate	3100	D2	400	mg/L			05/01/23 17:02	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:14	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-7

Date Collected: 04/19/23 14:10

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.23		0.020	mg/L		04/28/23 07:53	05/03/23 19:22	1
Boron	3.7		0.050	mg/L		04/26/23 09:38	05/04/23 03:14	1
Calcium	750		2.0	mg/L		04/26/23 09:38	05/05/23 03:35	1
Iron	0.31		0.10	mg/L		04/26/23 09:38	05/04/23 03:14	1
Magnesium	200		2.0	mg/L		04/26/23 09:38	05/04/23 03:14	1
Manganese	0.26		0.010	mg/L		04/26/23 09:38	05/04/23 03:14	1
Potassium	6.7		0.50	mg/L		04/26/23 09:38	05/04/23 03:14	1
Sodium	2000		5.0	mg/L		04/26/23 09:38	05/08/23 21:49	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0010	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:30	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:38	10
Barium	0.014		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:30	10
Cadmium	0.00024	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:30	10
Chromium	0.019		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:30	10
Cobalt	0.012		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:30	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:30	10
Molybdenum	0.018		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:30	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:30	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:30	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 11:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 12:11	1
Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			04/25/23 19:19	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 19:19	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			04/25/23 19:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:19	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:19	1
Total Dissolved Solids (SM 2540C)	8000		100	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:30	1
Temperature (SM 4500 H+ B)	15.5	H5 T5	0.1	Degrees C			04/27/23 14:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 17:23	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 17:23	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 17:23	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-8

Date Collected: 04/19/23 14:10

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:06	1
Manganese	0.095		0.010	mg/L		04/25/23 06:00	05/05/23 19:06	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:14	10
Cobalt	0.014		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:14	10

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-9

Date Collected: 04/19/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	mg/L			05/01/23 17:39	200
Fluoride	ND	D1 D5	2.0	mg/L			05/01/23 17:21	5
Sulfate	2900	D2	400	mg/L			05/01/23 17:39	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:17	1
Lithium	0.21		0.020	mg/L		04/28/23 07:53	05/03/23 19:27	1
Boron	2.7		0.050	mg/L		04/26/23 09:38	05/04/23 03:17	1
Calcium	680		2.0	mg/L		04/26/23 09:38	05/05/23 03:38	1
Iron	0.37		0.10	mg/L		04/26/23 09:38	05/04/23 03:17	1
Magnesium	180		2.0	mg/L		04/26/23 09:38	05/04/23 03:17	1
Manganese	1.9		0.010	mg/L		04/26/23 09:38	05/04/23 03:17	1
Potassium	9.0		0.50	mg/L		04/26/23 09:38	05/04/23 03:17	1
Sodium	1700		5.0	mg/L		04/26/23 09:38	05/08/23 21:52	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00088	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:32	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:40	10
Barium	0.014		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:32	10
Cadmium	0.00071	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:32	10
Chromium	0.011		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:32	10
Cobalt	0.017		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:32	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:32	10
Molybdenum	0.035		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:32	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:32	10
Thallium	0.00019	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:32	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 11:54	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 12:25	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-9

Date Collected: 04/19/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	92		6.0	mg/L			04/25/23 19:27	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 19:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	92		6.0	mg/L			04/25/23 19:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:27	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:27	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			04/27/23 14:32	1
Temperature (SM 4500 H+ B)	17.4	H5 T5	0.1	Degrees C			04/27/23 14:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 17:38	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.5	T5	0.50	mg/L			04/25/23 17:38	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 17:38	1

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-10

Date Collected: 04/19/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	mg/L		04/25/23 06:00	05/05/23 19:09	1
Manganese	1.7		0.010	mg/L		04/25/23 06:00	05/05/23 19:09	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:16	10
Cobalt	0.022		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:16	10

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-11

Date Collected: 04/19/23 17:34

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	mg/L			05/01/23 18:16	200
Fluoride	3.1	D1	2.0	mg/L			05/01/23 17:58	5
Sulfate	3000	D2	400	mg/L			05/01/23 18:16	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:20	1
Lithium	0.21		0.020	mg/L		04/28/23 07:53	05/03/23 19:31	1
Boron	3.9		0.050	mg/L		04/26/23 09:38	05/04/23 03:20	1
Calcium	750		2.0	mg/L		04/26/23 09:38	05/05/23 03:41	1
Iron	ND		0.10	mg/L		04/26/23 09:38	05/04/23 03:20	1
Magnesium	250		2.0	mg/L		04/26/23 09:38	05/04/23 03:20	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-11

Date Collected: 04/19/23 17:34

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.6		0.010	mg/L		04/26/23 09:38	05/04/23 03:20	1
Potassium	16		0.50	mg/L		04/26/23 09:38	05/04/23 03:20	1
Sodium	1700		5.0	mg/L		04/26/23 09:38	05/08/23 22:00	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00074	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:34	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:42	10
Barium	0.011		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:34	10
Cadmium	0.00032	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:34	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:34	10
Cobalt	0.015		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:34	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:34	10
Molybdenum	0.032		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:34	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:34	10
Thallium	0.00014	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:34	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.37		0.050	mg/L			04/26/23 11:56	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 12:27	1
Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:34	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 19:34	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:34	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:34	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:34	1
Temperature (SM 4500 H+ B)	18.4	H5 T5	0.1	Degrees C			04/27/23 14:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2	T5	0.50	mg/L			04/25/23 17:54	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2	T5	0.50	mg/L			04/25/23 17:54	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2	T5	0.50	mg/L			04/25/23 17:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-12

Date Collected: 04/19/23 17:34

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:12	1
Manganese	5.2		0.010	mg/L		04/25/23 06:00	05/05/23 19:12	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:18	10
Cobalt	0.016		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:18	10

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-13

Date Collected: 04/19/23 16:24

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	37000	D2	2000	mg/L			05/02/23 12:38	1000
Fluoride	ND	D1 D5	40	mg/L			05/01/23 16:39	100
Sulfate	1200	D2	200	mg/L			05/01/23 16:39	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0050	mg/L		04/26/23 09:38	05/05/23 03:43	5
Lithium	5.3		0.020	mg/L		04/28/23 07:53	05/03/23 19:35	1
Boron	0.33		0.25	mg/L		04/26/23 09:38	05/05/23 03:43	5
Calcium	8500		40	mg/L		04/26/23 09:38	05/08/23 22:03	20
Iron	ND		0.50	mg/L		04/26/23 09:38	05/05/23 03:43	5
Magnesium	1100		10	mg/L		04/26/23 09:38	05/05/23 03:43	5
Manganese	3.5		0.050	mg/L		04/26/23 09:38	05/05/23 03:43	5
Potassium	140		2.5	mg/L		04/26/23 09:38	05/05/23 03:43	5
Sodium	12000		10	mg/L		04/26/23 09:38	05/08/23 22:03	20

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0014	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:36	10
Arsenic	0.0095		0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:08	10
Barium	0.15		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:36	10
Cadmium	0.00063	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:36	10
Chromium	0.043		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:36	10
Cobalt	0.0032	E4	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:36	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:36	10
Molybdenum	0.023		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:36	10
Selenium	0.013		0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:36	10
Thallium	0.0018		0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:36	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.77		0.050	mg/L			04/26/23 11:57	1
Nitrate Nitrite as N (EPA 353.2)	0.29		0.10	mg/L			04/27/23 12:29	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-13

Date Collected: 04/19/23 16:24

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	25		6.0	mg/L			04/25/23 19:41	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 19:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	25		6.0	mg/L			04/25/23 19:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:41	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:41	1
Total Dissolved Solids (SM 2540C)	74000		1000	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			04/27/23 14:36	1
Temperature (SM 4500 H+ B)	18.1	H5 T5	0.1	Degrees C			04/27/23 14:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.0	T5	0.50	mg/L			04/25/23 18:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.0	T5	0.50	mg/L			04/25/23 18:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.0	T5	0.50	mg/L			04/25/23 18:06	1

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-14

Date Collected: 04/19/23 16:24

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		1.0	mg/L		04/25/23 06:00	05/22/23 21:20	10
Manganese	3.3		0.10	mg/L		04/25/23 06:00	05/22/23 21:20	10

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0069		0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:20	10
Cobalt	0.0041	E4	0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:20	10

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-15

Date Collected: 04/20/23 10:11

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	mg/L			05/01/23 18:53	200
Fluoride	3.9	D1	2.0	mg/L			05/01/23 18:34	5
Sulfate	3300	D2	400	mg/L			05/01/23 18:53	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:25	1
Lithium	0.22		0.020	mg/L		04/28/23 07:53	05/03/23 19:40	1
Boron	4.7		0.050	mg/L		04/26/23 09:38	05/04/23 03:25	1
Calcium	600		2.0	mg/L		04/26/23 09:38	05/05/23 03:46	1
Iron	2.3		0.10	mg/L		04/26/23 09:38	05/04/23 03:25	1
Magnesium	310		2.0	mg/L		04/26/23 09:38	05/04/23 03:25	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-15

Date Collected: 04/20/23 10:11

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.92		0.010	mg/L		04/26/23 09:38	05/04/23 03:25	1
Potassium	17		0.50	mg/L		04/26/23 09:38	05/04/23 03:25	1
Sodium	1800		5.0	mg/L		04/26/23 09:38	05/08/23 22:06	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00062	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:38	10
Arsenic	ND	E8	0.010	0.0049	mg/L		04/27/23 07:39	06/02/23 17:04	20
Barium	0.0097		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:38	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:38	10
Chromium	0.33		0.020	0.0087	mg/L		04/27/23 07:39	06/02/23 17:04	20
Cobalt	0.016		0.010	0.0013	mg/L		04/27/23 07:39	06/02/23 17:04	20
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:38	10
Molybdenum	0.058		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:38	10
Selenium	0.0067	E4	0.010	0.0015	mg/L		04/27/23 07:39	06/13/23 12:30	20
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:38	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:58	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 11:59	1
Nitrate Nitrite as N (EPA 353.2)	0.27		0.10	mg/L			04/27/23 12:31	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			04/26/23 21:21	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/26/23 21:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			04/26/23 21:21	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:21	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:21	1
Total Dissolved Solids (SM 2540C)	8300		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			04/27/23 14:38	1
Temperature (SM 4500 H+ B)	17.8	H5 T5	0.1	Degrees C			04/27/23 14:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 18:21	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 18:21	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 18:21	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-16

Date Collected: 04/20/23 10:11

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.92		0.10	mg/L		04/25/23 06:00	05/05/23 19:17	1
Manganese	0.51		0.010	mg/L		04/25/23 06:00	05/05/23 19:17	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:22	10
Cobalt	0.016		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:22	10

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-17

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	mg/L			05/01/23 19:30	200
Fluoride	ND	D1 D5	4.0	mg/L			05/01/23 19:11	10
Sulfate	2600	D2	400	mg/L			05/01/23 19:30	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:28	1
Lithium	0.24		0.020	mg/L		04/28/23 07:53	05/03/23 20:06	1
Boron	2.3		0.050	mg/L		04/26/23 09:38	05/04/23 03:28	1
Calcium	820		2.0	mg/L		04/26/23 09:38	05/05/23 03:49	1
Iron	0.24		0.10	mg/L		04/26/23 09:38	05/04/23 03:28	1
Magnesium	150		2.0	mg/L		04/26/23 09:38	05/04/23 03:28	1
Manganese	0.14		0.010	mg/L		04/26/23 09:38	05/04/23 03:28	1
Potassium	14		0.50	mg/L		04/26/23 09:38	05/04/23 03:28	1
Sodium	1600		5.0	mg/L		04/26/23 09:38	05/08/23 22:09	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00050	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:40	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 12:44	10
Barium	0.0086		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:40	10
Cadmium	0.00026	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:40	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:40	10
Cobalt	0.014		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:40	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:40	10
Molybdenum	0.040		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:40	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:40	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:40	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 22:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:00	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 12:33	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-17

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			04/26/23 21:41	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/26/23 21:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			04/26/23 21:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:41	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:41	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:39	1
Temperature (SM 4500 H+ B)	17.5	H5 T5	0.1	Degrees C			04/27/23 14:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3	T5	0.50	mg/L			04/25/23 18:35	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2	T5	0.50	mg/L			04/25/23 18:35	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3	T5	0.50	mg/L			04/25/23 18:35	1

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-18

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.19		0.10	mg/L		04/25/23 06:00	05/05/23 19:20	1
Manganese	0.12		0.010	mg/L		04/25/23 06:00	05/05/23 19:20	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:24	10
Cobalt	0.016		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:24	10

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-19

Date Collected: 04/18/23 17:01

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700	D2	400	mg/L			05/03/23 00:54	200
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 00:26	10
Sulfate	3800	D2	400	mg/L			05/03/23 00:54	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:31	1
Lithium	0.63		0.020	mg/L		04/28/23 07:53	05/03/23 20:10	1
Boron	0.70		0.050	mg/L		04/26/23 09:38	05/04/23 03:31	1
Calcium	850		2.0	mg/L		04/26/23 09:38	05/05/23 03:52	1
Iron	0.19		0.10	mg/L		04/26/23 09:38	05/04/23 03:31	1
Magnesium	200		2.0	mg/L		04/26/23 09:38	05/04/23 03:31	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-19

Date Collected: 04/18/23 17:01

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.5		0.010	mg/L		04/26/23 09:38	05/04/23 03:31	1
Potassium	16		0.50	mg/L		04/26/23 09:38	05/04/23 03:31	1
Sodium	ND	V1	0.50	mg/L		04/26/23 09:38	05/04/23 03:31	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00056	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:42	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:10	10
Barium	0.0096		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:42	10
Cadmium	0.00025	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:42	10
Chromium	0.0085	E4	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:42	10
Cobalt	0.027		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:42	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:42	10
Molybdenum	0.0076		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:42	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:42	10
Thallium	0.00014	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:42	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:02	1
Nitrate Nitrite as N (EPA 353.2)	13		1.0	mg/L			04/27/23 13:13	10
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/25/23 19:45	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 19:45	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/25/23 19:45	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:45	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 19:45	1
Total Dissolved Solids (SM 2540C)	14000		200	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:40	1
Temperature (SM 4500 H+ B)	17.6	H5 T5	0.1	Degrees C			04/27/23 14:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.4	T5	0.50	mg/L			04/25/23 18:50	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.4	T5	0.50	mg/L			04/25/23 18:50	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.4	T5	0.50	mg/L			04/25/23 18:50	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-20

Date Collected: 04/18/23 17:01

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.13		0.10	mg/L		04/25/23 06:00	05/05/23 19:23	1
Manganese	1.4		0.010	mg/L		04/25/23 06:00	05/05/23 19:23	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:26	10
Cobalt	0.022		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:26	10

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-21

Date Collected: 04/18/23 18:09

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2900	D2	400	mg/L			05/03/23 01:50	200
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 01:22	10
Sulfate	3400	D2	400	mg/L			05/03/23 01:50	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:40	1
Lithium	0.30		0.020	mg/L		04/28/23 07:53	05/03/23 20:15	1
Boron	4.1		0.050	mg/L		04/26/23 09:38	05/04/23 03:40	1
Calcium	720		2.0	mg/L		04/26/23 09:38	05/05/23 04:00	1
Iron	0.17		0.10	mg/L		04/26/23 09:38	05/04/23 03:40	1
Magnesium	240		2.0	mg/L		04/26/23 09:38	05/04/23 03:40	1
Manganese	0.23		0.010	mg/L		04/26/23 09:38	05/04/23 03:40	1
Potassium	5.7		0.50	mg/L		04/26/23 09:38	05/04/23 03:40	1
Sodium	2600		5.0	mg/L		04/26/23 09:38	05/08/23 22:12	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00049	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:44	10
Arsenic	0.0027		0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 13:52	10
Barium	0.0044	E4	0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:44	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:44	10
Chromium	0.041		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:44	10
Cobalt	0.020		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:44	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:44	10
Molybdenum	0.027		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:44	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:44	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:44	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 22:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND	M2	0.050	mg/L			04/26/23 12:12	1
Nitrate Nitrite as N (EPA 353.2)	0.11		0.10	mg/L			04/27/23 12:37	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-21

Date Collected: 04/18/23 18:09

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/25/23 20:05	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 20:05	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			04/25/23 20:05	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:05	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:05	1
Total Dissolved Solids (SM 2540C)	9200		100	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:42	1
Temperature (SM 4500 H+ B)	17.8	H5 T5	0.1	Degrees C			04/27/23 14:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.7	T5	0.50	mg/L			04/25/23 19:32	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.7	T5	0.50	mg/L			04/25/23 19:32	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.7	T5	0.50	mg/L			04/25/23 19:32	1

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-22

Date Collected: 04/18/23 18:09

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:31	1
Manganese	0.024		0.010	mg/L		04/25/23 06:00	05/05/23 19:31	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:23	05/19/23 08:28	10
Cobalt	0.019		0.0050	0.00063	mg/L		04/25/23 04:23	05/19/23 08:28	10

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-23

Date Collected: 04/19/23 11:25

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	20	mg/L			05/03/23 02:18	10
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 02:18	10
Sulfate	12000	D2	400	mg/L			05/03/23 02:46	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:42	1
Lithium	0.81		0.020	mg/L		04/28/23 07:53	05/03/23 20:19	1
Boron	1.2		0.050	mg/L		04/26/23 09:38	05/04/23 03:42	1
Calcium	450		2.0	mg/L		04/26/23 09:38	05/05/23 04:03	1
Iron	0.19		0.10	mg/L		04/26/23 09:38	05/04/23 03:42	1
Magnesium	250		2.0	mg/L		04/26/23 09:38	05/04/23 03:42	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-23

Date Collected: 04/19/23 11:25

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.018		0.010	mg/L		04/26/23 09:38	05/04/23 03:42	1
Potassium	8.2		0.50	mg/L		04/26/23 09:38	05/04/23 03:42	1
Sodium	ND	V1	0.50	mg/L		04/26/23 09:38	05/04/23 03:42	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00066	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:46	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:12	10
Barium	0.015		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:46	10
Cadmium	0.00026	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:46	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:46	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:46	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:46	10
Molybdenum	0.056		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:46	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:46	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:46	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:17	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 12:39	1
Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			04/25/23 20:21	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 20:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			04/25/23 20:21	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:21	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:21	1
Total Dissolved Solids (SM 2540C)	19000		200	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.9	H5	1.7	SU			04/27/23 14:44	1
Temperature (SM 4500 H+ B)	18.1	H5 T5	0.1	Degrees C			04/27/23 14:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.6	T5	0.50	mg/L			04/25/23 19:44	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.6	T5	0.50	mg/L			04/25/23 19:44	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.6	T5	0.50	mg/L			04/25/23 19:44	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-24

Date Collected: 04/19/23 11:25

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:34	1
Manganese	0.012		0.010	mg/L		04/25/23 06:00	05/05/23 19:34	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0029	E4	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:46	10
Cobalt	0.0015	E4	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:46	10

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-25

Date Collected: 04/20/23 17:18

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	400	mg/L			05/03/23 03:42	200
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 03:14	10
Sulfate	2600	D2	400	mg/L			05/03/23 03:42	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:45	1
Lithium	0.43		0.020	mg/L		04/28/23 07:53	05/03/23 20:24	1
Boron	0.45		0.050	mg/L		04/26/23 09:38	05/04/23 03:45	1
Calcium	850		2.0	mg/L		04/26/23 09:38	05/05/23 04:06	1
Iron	0.23		0.10	mg/L		04/26/23 09:38	05/04/23 03:45	1
Magnesium	130		2.0	mg/L		04/26/23 09:38	05/04/23 03:45	1
Manganese	0.11		0.010	mg/L		04/26/23 09:38	05/04/23 03:45	1
Potassium	6.8		0.50	mg/L		04/26/23 09:38	05/04/23 03:45	1
Sodium	2400		5.0	mg/L		04/26/23 09:38	05/08/23 22:14	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00080	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:53	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 13:54	10
Barium	0.012		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:53	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:53	10
Chromium	0.012		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:53	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:53	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:53	10
Molybdenum	0.0030	E4	0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:53	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:53	10
Thallium	0.00013	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:53	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:18	1
Nitrate Nitrite as N (EPA 353.2)	0.12		0.10	mg/L			04/27/23 12:41	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-25

Date Collected: 04/20/23 17:18

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	180		6.0	mg/L			04/26/23 21:55	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/26/23 21:55	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	180		6.0	mg/L			04/26/23 21:55	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:55	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 21:55	1
Total Dissolved Solids (SM 2540C)	8800		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:45	1
Temperature (SM 4500 H+ B)	18.7	H5 T5	0.1	Degrees C			04/27/23 14:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 19:57	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 19:57	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4	T5	0.50	mg/L			04/25/23 19:57	1

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-26

Date Collected: 04/20/23 17:18

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	mg/L		04/25/23 06:00	05/05/23 19:37	1
Manganese	0.10		0.010	mg/L		04/25/23 06:00	05/05/23 19:37	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:48	10
Cobalt	0.0013	E4	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:48	10

Client Sample ID: CH-CCR-W309-0423

Lab Sample ID: 550-201150-27

Date Collected: 04/20/23 14:46

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	20	mg/L			05/03/23 04:10	10
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 04:10	10
Sulfate	3100	D2	400	mg/L			05/03/23 04:38	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:48	1
Lithium	0.37		0.020	mg/L		04/28/23 07:53	05/03/23 20:28	1
Boron	0.49		0.050	mg/L		04/26/23 09:38	05/04/23 03:48	1
Calcium	470		2.0	mg/L		04/26/23 09:38	05/05/23 04:09	1
Iron	0.15		0.10	mg/L		04/26/23 09:38	05/04/23 03:48	1
Magnesium	100		2.0	mg/L		04/26/23 09:38	05/04/23 03:48	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-0423

Lab Sample ID: 550-201150-27

Date Collected: 04/20/23 14:46

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.60		0.010	mg/L		04/26/23 09:38	05/04/23 03:48	1
Potassium	5.9		0.50	mg/L		04/26/23 09:38	05/04/23 03:48	1
Sodium	2100		5.0	mg/L		04/26/23 09:38	05/08/23 22:17	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:55	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 13:56	10
Barium	0.0071		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:55	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:55	10
Chromium	0.011		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:55	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:55	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:55	10
Molybdenum	0.0084		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:55	10
Selenium	0.15		0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:55	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:55	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:20	1
Nitrate Nitrite as N (EPA 353.2)	2.7		0.10	mg/L			04/27/23 12:59	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/26/23 22:03	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/26/23 22:03	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/26/23 22:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 22:03	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/26/23 22:03	1
Total Dissolved Solids (SM 2540C)	7200		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:48	1
Temperature (SM 4500 H+ B)	18.7	H5 T5	0.1	Degrees C			04/27/23 14:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.90	T5	0.50	mg/L			04/25/23 20:09	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.90	T5	0.50	mg/L			04/25/23 20:09	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.90	T5	0.50	mg/L			04/25/23 20:09	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-0423

Lab Sample ID: 550-201150-28

Date Collected: 04/20/23 14:46

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:40	1
Manganese	0.43		0.010	mg/L		04/25/23 06:00	05/05/23 19:40	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:50	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:50	10

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-29

Date Collected: 04/20/23 12:24

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			05/03/23 01:51	200
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 01:23	10
Sulfate	2500	D2	400	mg/L			05/03/23 01:51	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:51	1
Lithium	0.30		0.020	mg/L		04/28/23 07:53	05/03/23 20:33	1
Boron	1.7		0.050	mg/L		04/26/23 09:38	05/04/23 03:51	1
Calcium	750		2.0	mg/L		04/26/23 09:38	05/05/23 04:12	1
Iron	0.10		0.10	mg/L		04/26/23 09:38	05/04/23 03:51	1
Manganese	0.24		0.010	mg/L		04/26/23 09:38	05/04/23 03:51	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:57	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 13:58	10
Barium	0.0096		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:57	10
Cadmium	0.00053	E4	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:57	10
Chromium	0.014		0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:57	10
Cobalt	0.042		0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:57	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:57	10
Molybdenum	0.013		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:57	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:57	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:57	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:21	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 13:01	1
Total Dissolved Solids (SM 2540C)	7300		100	mg/L			04/26/23 15:41	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:51	1
Temperature (SM 4500 H+ B)	18.6	H5 T5	0.1	Degrees C			04/27/23 14:51	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-29

Date Collected: 04/20/23 12:24

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.6	T5	0.50	mg/L			04/25/23 20:21	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.6	T5	0.50	mg/L			04/25/23 20:21	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.6	T5	0.50	mg/L			04/25/23 20:21	1

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-30

Date Collected: 04/20/23 12:24

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:43	1
Manganese	0.21		0.010	mg/L		04/25/23 06:00	05/05/23 19:43	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:52	10
Cobalt	0.047		0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:52	10

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-31

Date Collected: 04/17/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	20	mg/L			05/03/23 02:19	10
Fluoride	ND	D1 D5	4.0	mg/L			05/03/23 02:19	10
Sulfate	3000	D2	400	mg/L			05/03/23 02:46	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:54	1
Lithium	0.43		0.020	mg/L		04/28/23 07:53	05/03/23 20:37	1
Boron	3.3		0.050	mg/L		04/26/23 09:38	05/04/23 03:54	1
Calcium	680		2.0	mg/L		04/26/23 09:38	05/05/23 04:15	1
Iron	0.18		0.10	mg/L		04/26/23 09:38	05/04/23 03:54	1
Magnesium	200		2.0	mg/L		04/26/23 09:38	05/04/23 03:54	1
Manganese	0.40		0.010	mg/L		04/26/23 09:38	05/04/23 03:54	1
Potassium	6.6		0.50	mg/L		04/26/23 09:38	05/04/23 03:54	1
Sodium	1700		5.0	mg/L		04/26/23 09:38	05/08/23 22:23	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00043	E4	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:59	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:14	10
Barium	0.0090		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 17:59	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 17:59	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 17:59	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 17:59	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 17:59	10

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-31

Date Collected: 04/17/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0080		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 17:59	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 17:59	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 17:59	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:08	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:23	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 13:03	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/24/23 20:01	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 20:01	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/24/23 20:01	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:01	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:01	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:52	1
Temperature (SM 4500 H+ B)	17.9	H5 T5	0.1	Degrees C			04/27/23 14:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.3	T5	0.50	mg/L			04/25/23 20:37	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.3	T5	0.50	mg/L			04/25/23 20:37	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.3	T5	0.50	mg/L			04/25/23 20:37	1

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-32

Date Collected: 04/17/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:46	1
Manganese	0.35		0.010	mg/L		04/25/23 06:00	05/05/23 19:46	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:54	10
Cobalt	0.00069	E4	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:54	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-33

Date Collected: 04/17/23 14:14

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4800	D2	400	mg/L			05/03/23 03:42	200
Fluoride	5.8	D1	4.0	mg/L			05/03/23 03:14	10
Sulfate	2800	D2	400	mg/L			05/03/23 03:42	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:57	1
Lithium	0.43		0.020	mg/L		04/28/23 07:53	05/03/23 20:41	1
Boron	29		0.050	mg/L		04/26/23 09:38	05/04/23 03:57	1
Calcium	870		2.0	mg/L		04/26/23 09:38	05/05/23 04:17	1
Iron	ND		0.10	mg/L		04/26/23 09:38	05/04/23 03:57	1
Magnesium	280		2.0	mg/L		04/26/23 09:38	05/04/23 03:57	1
Manganese	0.59		0.010	mg/L		04/26/23 09:38	05/04/23 03:57	1
Potassium	29		0.50	mg/L		04/26/23 09:38	05/04/23 03:57	1
Sodium	3200		5.0	mg/L		04/26/23 09:38	05/08/23 22:26	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 18:01	10
Arsenic	0.018		0.010	0.0049	mg/L		04/27/23 07:39	06/02/23 17:06	20
Barium	0.0076		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 18:01	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 18:01	10
Chromium	ND	E8	0.020	0.0087	mg/L		04/27/23 07:39	06/02/23 17:06	20
Cobalt	0.0022	E4	0.010	0.0013	mg/L		04/27/23 07:39	06/02/23 17:06	20
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 18:01	10
Molybdenum	0.22		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 18:01	10
Selenium	0.0067	E4	0.010	0.0015	mg/L		04/27/23 07:39	06/13/23 12:32	20
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 18:01	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.057		0.050	mg/L			04/26/23 12:24	1
Nitrate Nitrite as N (EPA 353.2)	0.16		0.10	mg/L			04/27/23 13:05	1
Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			04/24/23 20:09	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 20:09	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			04/24/23 20:09	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:09	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:09	1
Total Dissolved Solids (SM 2540C)	12000		200	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			04/27/23 14:53	1
Temperature (SM 4500 H+ B)	18.0	H5 T5	0.1	Degrees C			04/27/23 14:53	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-33

Date Collected: 04/17/23 14:14

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 20:50	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 20:50	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 20:50	1

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-34

Date Collected: 04/17/23 14:14

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:48	1
Manganese	0.55		0.010	mg/L		04/25/23 06:00	05/05/23 19:48	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.023		0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:56	10
Cobalt	0.0021	E4	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:56	10

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-35

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4200	D2	50	mg/L			05/02/23 16:31	25
Fluoride	ND	D1 D5	10	mg/L			05/02/23 16:31	25
Sulfate	3700	D2	50	mg/L			05/02/23 16:31	25

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 03:59	1
Lithium	0.29		0.020	mg/L		04/28/23 07:53	05/03/23 21:07	1
Boron	1.1		0.050	mg/L		04/26/23 09:38	05/04/23 03:59	1
Calcium	640		2.0	mg/L		04/26/23 09:38	05/05/23 04:20	1
Iron	7.2		0.10	mg/L		04/26/23 09:38	05/04/23 03:59	1
Magnesium	290		2.0	mg/L		04/26/23 09:38	05/04/23 03:59	1
Manganese	2.3		0.010	mg/L		04/26/23 09:38	05/04/23 03:59	1
Potassium	15		0.50	mg/L		04/26/23 09:38	05/04/23 03:59	1
Sodium	3800		5.0	mg/L		04/26/23 09:38	05/08/23 22:34	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 18:03	10
Arsenic	0.0037		0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 14:00	10
Barium	0.014		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 18:03	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 18:03	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 18:03	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 18:03	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 18:03	10

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-35

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0044	E4	0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 18:03	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 18:03	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 18:03	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.86		0.050	mg/L			04/26/23 12:26	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 13:07	1
Alkalinity as CaCO3 (SM 2320B)	420		6.0	mg/L			04/24/23 20:15	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 20:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	420		6.0	mg/L			04/24/23 20:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:15	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:15	1
Total Dissolved Solids (SM 2540C)	12000		200	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	6.9	H5	1.7	SU			04/27/23 14:54	1
Temperature (SM 4500 H+ B)	17.9	H5 T5	0.1	Degrees C			04/27/23 14:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	6.0	T5	0.50	mg/L			04/25/23 21:05	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	6.0	T5	0.50	mg/L			04/25/23 21:05	1
Dissolved Organic Carbon - Quad (SM 5310B)	6.0	T5	0.50	mg/L			04/25/23 21:05	1

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-36

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.0		0.10	mg/L		04/25/23 06:00	05/05/23 19:51	1
Manganese	2.1		0.010	mg/L		04/25/23 06:00	05/05/23 19:51	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 08:58	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 08:58	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-37

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700	D2	400	mg/L			05/02/23 17:00	200
Fluoride	5.9	D1	4.0	mg/L			05/02/23 16:32	10
Sulfate	3300	D2	400	mg/L			05/02/23 17:00	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 04:02	1
Lithium	0.43		0.020	mg/L		04/27/23 14:37	04/29/23 00:41	1
Boron	40		0.050	mg/L		04/26/23 09:38	05/04/23 04:02	1
Calcium	840		2.0	mg/L		04/26/23 09:38	05/05/23 04:23	1
Iron	ND		0.10	mg/L		04/26/23 09:38	05/04/23 04:02	1
Magnesium	280		2.0	mg/L		04/26/23 09:38	05/04/23 04:02	1
Manganese	2.5		0.010	mg/L		04/26/23 09:38	05/04/23 04:02	1
Potassium	37		0.50	mg/L		04/26/23 09:38	05/04/23 04:02	1
Sodium	4000		5.0	mg/L		04/26/23 09:38	05/08/23 22:37	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 18:05	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:16	10
Barium	0.012		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 18:05	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 18:05	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 18:05	10
Cobalt	0.0031	E4	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 18:05	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 18:05	10
Molybdenum	0.27		0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 18:05	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 18:05	10
Thallium	0.00024	E4	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 18:05	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:18	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.3		0.050	mg/L			04/26/23 12:27	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 13:09	1
Alkalinity as CaCO3 (SM 2320B)	47		6.0	mg/L			04/24/23 20:26	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/24/23 20:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	47		6.0	mg/L			04/24/23 20:26	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:26	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/24/23 20:26	1
Total Dissolved Solids (SM 2540C)	13000		200	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:55	1
Temperature (SM 4500 H+ B)	18.4	H5 T5	0.1	Degrees C			04/27/23 14:55	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-37

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 21:18	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 21:18	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.4	T5	0.50	mg/L			04/25/23 21:18	1

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-38

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:54	1
Manganese	2.2		0.010	mg/L		04/25/23 06:00	05/05/23 19:54	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 09:00	10
Cobalt	0.0040	E4	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 09:00	10

Client Sample ID: CH-CCR-W125-0423

Lab Sample ID: 550-201150-39

Date Collected: 04/17/23 16:44

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	690	D2	400	mg/L			05/01/23 18:03	200
Fluoride	ND	D1 D5	0.80	mg/L			05/01/23 17:35	2
Sulfate	320	D2	4.0	mg/L			05/01/23 17:35	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 04:05	1
Lithium	ND		0.020	mg/L		04/27/23 14:37	04/29/23 00:46	1
Boron	0.18		0.050	mg/L		04/26/23 09:38	05/04/23 04:05	1
Calcium	130		2.0	mg/L		04/26/23 09:38	05/05/23 04:26	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 18:07	10
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/27/23 07:39	06/02/23 17:18	10
Barium	0.020		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 18:07	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 18:07	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 18:07	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 18:07	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 18:07	10
Molybdenum	0.0023	E4	0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 18:07	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 18:07	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 18:07	10

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W125-0423

Lab Sample ID: 550-201150-39

Date Collected: 04/17/23 16:44

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1800		20	mg/L			04/24/23 18:20	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:56	1
Temperature (SM 4500 H+ B)	18.7	H5 T5	0.1	Degrees C			04/27/23 14:56	1

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-40

Date Collected: 04/19/23 09:18

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	320	D2	4.0	mg/L			05/01/23 18:31	2
Fluoride	ND	D1 D5	0.80	mg/L			05/01/23 18:31	2
Sulfate	260	D2	4.0	mg/L			05/01/23 18:31	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/26/23 09:24	05/05/23 20:56	1
Lithium	ND		0.020	mg/L		04/27/23 14:37	04/29/23 00:51	1
Boron	0.11		0.050	mg/L		04/26/23 09:24	05/05/23 20:56	1
Calcium	99		2.0	mg/L		04/26/23 09:24	05/05/23 20:56	1
Iron	ND		0.10	mg/L		04/26/23 09:24	05/05/23 20:56	1
Magnesium	44		2.0	mg/L		04/26/23 09:24	05/05/23 20:56	1
Manganese	ND		0.010	mg/L		04/26/23 09:24	05/05/23 20:56	1
Potassium	3.4		0.50	mg/L		04/26/23 09:24	05/05/23 20:56	1
Sodium	240		0.50	mg/L		04/26/23 09:24	05/05/23 20:56	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.00043	mg/L		04/27/23 07:39	05/26/23 18:09	10
Arsenic	0.0025		0.0050	0.0025	mg/L		04/27/23 07:39	06/13/23 14:02	10
Barium	0.012		0.0050	0.0026	mg/L		04/27/23 07:39	05/26/23 18:09	10
Cadmium	ND	E8	0.0010	0.00023	mg/L		04/27/23 07:39	05/26/23 18:09	10
Chromium	ND	E8	0.010	0.0043	mg/L		04/27/23 07:39	05/26/23 18:09	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/27/23 07:39	05/26/23 18:09	10
Lead	ND	E8	0.0050	0.0022	mg/L		04/27/23 07:39	05/26/23 18:09	10
Molybdenum	ND	E8	0.0050	0.0020	mg/L		04/27/23 07:39	05/26/23 18:09	10
Selenium	ND	E8	0.0050	0.00074	mg/L		04/27/23 07:39	05/26/23 18:09	10
Thallium	ND	E8	0.0010	0.00013	mg/L		04/27/23 07:39	05/26/23 18:09	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 20:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			04/26/23 12:29	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			04/27/23 13:11	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-40

Date Collected: 04/19/23 09:18

Matrix: Water

Date Received: 04/21/23 14:43

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/25/23 20:27	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			04/25/23 20:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			04/25/23 20:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:27	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			04/25/23 20:27	1
Total Dissolved Solids (SM 2540C)	1100		20	mg/L			04/25/23 14:02	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/27/23 14:57	1
Temperature (SM 4500 H+ B)	19.0	H5 T5	0.1	Degrees C			04/27/23 14:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.91	T5	0.50	mg/L			04/25/23 21:34	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.91	T5	0.50	mg/L			04/25/23 21:34	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.91	T5	0.50	mg/L			04/25/23 21:34	1

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-41

Date Collected: 04/19/23 09:18

Matrix: Water

Date Received: 04/21/23 14:43

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 19:57	1
Manganese	ND		0.010	mg/L		04/25/23 06:00	05/05/23 19:57	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0050	0.0025	mg/L		04/25/23 04:29	05/19/23 09:02	10
Cobalt	ND	E8	0.0050	0.00063	mg/L		04/25/23 04:29	05/19/23 09:02	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-299389/2
Matrix: Water
Analysis Batch: 299389

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/01/23 11:13	1
Fluoride	ND		0.40	mg/L			05/01/23 11:13	1
Sulfate	ND		2.0	mg/L			05/01/23 11:13	1

Lab Sample ID: LCS 550-299389/5
Matrix: Water
Analysis Batch: 299389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.25		mg/L		106	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-299389/6
Matrix: Water
Analysis Batch: 299389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	2	20
Sulfate	20.0	20.9		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-201499-A-1 MS ^10
Matrix: Water
Analysis Batch: 299389

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	69	D1	200	284	D1	mg/L		107	80 - 120
Fluoride	10	D1	40.0	53.8	D1	mg/L		109	80 - 120
Sulfate	51	D1	200	265	D1	mg/L		107	80 - 120

Lab Sample ID: 550-201499-A-1 MSD ^10
Matrix: Water
Analysis Batch: 299389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	69	D1	200	287	D1	mg/L		109	80 - 120	1	20
Fluoride	10	D1	40.0	54.4	D1	mg/L		111	80 - 120	1	20
Sulfate	51	D1	200	266	D1	mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-299390/2
Matrix: Water
Analysis Batch: 299390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/01/23 11:32	1
Fluoride	ND		0.40	mg/L			05/01/23 11:32	1
Sulfate	ND		2.0	mg/L			05/01/23 11:32	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-299390/5
Matrix: Water
Analysis Batch: 299390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		102	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-299390/6
Matrix: Water
Analysis Batch: 299390

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	1	20
Sulfate	20.0	21.0		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-201235-J-1 MS ^10
Matrix: Water
Analysis Batch: 299390

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	650	D2	200	848	D2	mg/L		98	80 - 120
Fluoride	ND	D1	40.0	43.8	D1	mg/L		103	80 - 120
Sulfate	170	D1	200	379	D1	mg/L		105	80 - 120

Lab Sample ID: 550-201235-J-1 MSD ^10
Matrix: Water
Analysis Batch: 299390

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	650	D2	200	847	D2	mg/L		97	80 - 120	0	20
Fluoride	ND	D1	40.0	44.1	D1	mg/L		104	80 - 120	1	20
Sulfate	170	D1	200	379	D1	mg/L		105	80 - 120	0	20

Lab Sample ID: MB 550-299391/2
Matrix: Water
Analysis Batch: 299391

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/01/23 11:04	1
Fluoride	ND		0.40	mg/L			05/01/23 11:04	1
Sulfate	ND		2.0	mg/L			05/01/23 11:04	1

Lab Sample ID: LCS 550-299391/5
Matrix: Water
Analysis Batch: 299391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-299391/6
Matrix: Water
Analysis Batch: 299391

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.12		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-201154-A-2 MS ^100
Matrix: Water
Analysis Batch: 299391

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	ND	D1	2000	2140	D1	mg/L		107	80 - 120
Fluoride	220	D2	400	636	D2	mg/L		104	80 - 120
Sulfate	ND	D1	2000	2190	D1	mg/L		102	80 - 120

Lab Sample ID: 550-201154-A-2 MSD ^100
Matrix: Water
Analysis Batch: 299391

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND	D1	2000	2150	D1	mg/L		107	80 - 120	0	20
Fluoride	220	D2	400	636	D2	mg/L		104	80 - 120	0	20
Sulfate	ND	D1	2000	2190	D1	mg/L		102	80 - 120	0	20

Lab Sample ID: MB 550-299477/1038
Matrix: Water
Analysis Batch: 299477

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/02/23 22:09	1
Fluoride	ND		0.40	mg/L			05/02/23 22:09	1
Sulfate	ND		2.0	mg/L			05/02/23 22:09	1

Lab Sample ID: MB 550-299477/2
Matrix: Water
Analysis Batch: 299477

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/02/23 11:06	1
Fluoride	ND		0.40	mg/L			05/02/23 11:06	1
Sulfate	ND		2.0	mg/L			05/02/23 11:06	1

Lab Sample ID: LCS 550-299477/5
Matrix: Water
Analysis Batch: 299477

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-299477/6
Matrix: Water
Analysis Batch: 299477

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-201150-13 MS
Matrix: Water
Analysis Batch: 299477

Client Sample ID: CH-CCR-MW72M-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	37000	D2	20000	58800	D2	mg/L		109	80 - 120

Lab Sample ID: 550-201150-13 MSD
Matrix: Water
Analysis Batch: 299477

Client Sample ID: CH-CCR-MW72M-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	37000	D2	20000	58600	D2	mg/L		108	80 - 120	0	20

Lab Sample ID: MB 550-299479/2
Matrix: Water
Analysis Batch: 299479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/02/23 11:24	1
Fluoride	ND		0.40	mg/L			05/02/23 11:24	1
Sulfate	ND		2.0	mg/L			05/02/23 11:24	1

Lab Sample ID: LCS 550-299479/5
Matrix: Water
Analysis Batch: 299479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.15		mg/L		104	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-299479/6
Matrix: Water
Analysis Batch: 299479

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.5		mg/L		107	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-201578-B-1 MS
Matrix: Water
Analysis Batch: 299479

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	81		20.0	98.7	M3	mg/L		89	80 - 120
Fluoride	0.48		4.00	4.59		mg/L		103	80 - 120
Sulfate	120		20.0	132	M3	mg/L		81	80 - 120

Lab Sample ID: 550-201578-B-1 MSD
Matrix: Water
Analysis Batch: 299479

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	81		20.0	99.0	M3	mg/L		90	80 - 120	0	20
Fluoride	0.48		4.00	4.68		mg/L		105	80 - 120	2	20
Sulfate	120		20.0	132	M3	mg/L		83	80 - 120	0	20

Lab Sample ID: MB 550-299480/2
Matrix: Water
Analysis Batch: 299480

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/02/23 10:56	1
Fluoride	ND		0.40	mg/L			05/02/23 10:56	1
Sulfate	ND		2.0	mg/L			05/02/23 10:56	1

Lab Sample ID: LCS 550-299480/5
Matrix: Water
Analysis Batch: 299480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.3		mg/L		106	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-299480/6
Matrix: Water
Analysis Batch: 299480

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-201561-A-1 MS
Matrix: Water
Analysis Batch: 299480

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	410	E2 M3	20.0	406	E2 M3	mg/L		-0.8	80 - 120
Fluoride	ND		4.00	4.42		mg/L		102	80 - 120
Sulfate	220	E2 M3	20.0	229	E2 M3	mg/L		47	80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-201561-A-1 MSD
Matrix: Water
Analysis Batch: 299480

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
Chloride	410	E2 M3	20.0	406	E2 M3	mg/L		-0.3	80 - 120	0		20
Fluoride	ND		4.00	4.47		mg/L		103	80 - 120	1		20
Sulfate	220	E2 M3	20.0	229	E2 M3	mg/L		47	80 - 120	0		20

Method: 200.7 - Dissolved Metals by ICP

Lab Sample ID: MB 550-298883/1-A
Matrix: Water
Analysis Batch: 299799

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298883

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier							
Iron	ND		0.10	mg/L		04/25/23 06:00	05/05/23 18:43		1
Manganese	ND		0.010	mg/L		04/25/23 06:00	05/05/23 18:43		1

Lab Sample ID: LCS 550-298883/2-A
Matrix: Water
Analysis Batch: 299799

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298883

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Iron	1.00	0.915		mg/L		92	85 - 115		
Manganese	1.00	0.921		mg/L		92	85 - 115		

Lab Sample ID: LCSD 550-298883/3-A
Matrix: Water
Analysis Batch: 299799

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298883

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Iron	1.00	0.927		mg/L		93	85 - 115	1	20
Manganese	1.00	0.930		mg/L		93	85 - 115	1	20

Lab Sample ID: 550-201150-2 MS
Matrix: Water
Analysis Batch: 299799

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Dissolved
Prep Batch: 298883

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Iron	11	M3	1.00	10.6	M3	mg/L		5	70 - 130		
Manganese	2.2		1.00	2.91		mg/L		74	70 - 130		

Lab Sample ID: 550-201150-2 MSD
Matrix: Water
Analysis Batch: 299799

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Dissolved
Prep Batch: 298883

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Iron	11	M3	1.00	10.5	M3	mg/L		-9	70 - 130	1	20
Manganese	2.2		1.00	2.93		mg/L		76	70 - 130	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-298980/1-A
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298980

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		04/26/23 09:24	05/05/23 20:05	1
Boron	ND		0.050	mg/L		04/26/23 09:24	05/05/23 20:05	1
Calcium	ND		2.0	mg/L		04/26/23 09:24	05/05/23 20:05	1
Iron	ND		0.10	mg/L		04/26/23 09:24	05/05/23 20:05	1
Magnesium	ND		2.0	mg/L		04/26/23 09:24	05/05/23 20:05	1
Manganese	ND		0.010	mg/L		04/26/23 09:24	05/05/23 20:05	1
Potassium	ND		0.50	mg/L		04/26/23 09:24	05/05/23 20:05	1
Sodium	ND		0.50	mg/L		04/26/23 09:24	05/05/23 20:05	1

Lab Sample ID: LCS 550-298980/2-A
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.07		mg/L		107	85 - 115
Boron	1.00	1.06		mg/L		106	85 - 115
Calcium	21.0	22.6		mg/L		108	85 - 115
Iron	1.00	0.984		mg/L		98	85 - 115
Magnesium	21.0	21.6		mg/L		103	85 - 115
Manganese	1.00	0.941		mg/L		94	85 - 115
Potassium	20.0	20.8		mg/L		104	85 - 115
Sodium	20.0	20.6		mg/L		103	85 - 115

Lab Sample ID: LCSD 550-298980/3-A
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.06		mg/L		106	85 - 115	1	20
Boron	1.00	1.08		mg/L		108	85 - 115	2	20
Calcium	21.0	22.6		mg/L		107	85 - 115	0	20
Iron	1.00	0.976		mg/L		98	85 - 115	1	20
Magnesium	21.0	21.6		mg/L		103	85 - 115	0	20
Manganese	1.00	0.959		mg/L		96	85 - 115	2	20
Potassium	20.0	20.7		mg/L		104	85 - 115	0	20
Sodium	20.0	20.5		mg/L		103	85 - 115	0	20

Lab Sample ID: 380-44514-A-3-A MS
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298980

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.09		mg/L		109	70 - 130
Boron	0.11		1.00	1.20		mg/L		109	70 - 130
Calcium	72		21.0	93.2		mg/L		103	70 - 130
Iron	ND		1.00	1.22		mg/L		116	70 - 130
Magnesium	15		21.0	37.1		mg/L		104	70 - 130
Manganese	ND		1.00	0.950		mg/L		95	70 - 130
Potassium	5.4		20.0	27.1		mg/L		108	70 - 130

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 380-44514-A-3-A MS
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298980

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	110		20.0	126	M3	mg/L		92	70 - 130

Lab Sample ID: 380-44514-A-3-B MSD
Matrix: Water
Analysis Batch: 299800

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298980

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.07		mg/L		107	70 - 130	2	20
Boron	0.11		1.00	1.19		mg/L		108	70 - 130	1	20
Calcium	72		21.0	92.3		mg/L		99	70 - 130	1	20
Iron	ND		1.00	1.04		mg/L		99	70 - 130	15	20
Magnesium	15		21.0	36.6		mg/L		102	70 - 130	1	20
Manganese	ND		1.00	0.941		mg/L		94	70 - 130	1	20
Potassium	5.4		20.0	26.7		mg/L		106	70 - 130	2	20
Sodium	110		20.0	125	M3	mg/L		85	70 - 130	1	20

Lab Sample ID: MB 550-298982/1-A
Matrix: Water
Analysis Batch: 299621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298982

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	V1	0.0010	mg/L		04/26/23 09:38	05/04/23 02:52	1
Boron	ND		0.050	mg/L		04/26/23 09:38	05/04/23 02:52	1
Iron	ND		0.10	mg/L		04/26/23 09:38	05/04/23 02:52	1
Magnesium	ND		2.0	mg/L		04/26/23 09:38	05/04/23 02:52	1
Manganese	ND		0.010	mg/L		04/26/23 09:38	05/04/23 02:52	1
Potassium	ND		0.50	mg/L		04/26/23 09:38	05/04/23 02:52	1

Lab Sample ID: MB 550-298982/1-A
Matrix: Water
Analysis Batch: 299740

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298982

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		2.0	mg/L		04/26/23 09:38	05/05/23 03:12	1

Lab Sample ID: MB 550-298982/1-A
Matrix: Water
Analysis Batch: 299908

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298982

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		0.50	mg/L		04/26/23 09:38	05/08/23 21:29	1

Lab Sample ID: LCS 550-298982/2-A
Matrix: Water
Analysis Batch: 299621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	1.07	V1	mg/L		107	85 - 115
Boron	1.00	1.07		mg/L		107	85 - 115
Iron	1.00	1.04		mg/L		104	85 - 115

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-298982/2-A
Matrix: Water
Analysis Batch: 299621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	21.0	21.4		mg/L		102	85 - 115
Manganese	1.00	1.02		mg/L		102	85 - 115
Potassium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCS 550-298982/2-A
Matrix: Water
Analysis Batch: 299740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	21.8		mg/L		104	85 - 115

Lab Sample ID: LCS 550-298982/2-A
Matrix: Water
Analysis Batch: 299908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	20.0	21.6		mg/L		108	85 - 115

Lab Sample ID: LCSD 550-298982/3-A
Matrix: Water
Analysis Batch: 299621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.06	V1	mg/L		106	85 - 115	1	20
Boron	1.00	1.06		mg/L		106	85 - 115	1	20
Iron	1.00	1.03		mg/L		103	85 - 115	1	20
Magnesium	21.0	21.5		mg/L		103	85 - 115	0	20
Manganese	1.00	1.02		mg/L		102	85 - 115	0	20
Potassium	20.0	20.4		mg/L		102	85 - 115	0	20

Lab Sample ID: LCSD 550-298982/3-A
Matrix: Water
Analysis Batch: 299740

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	21.7		mg/L		103	85 - 115	0	20

Lab Sample ID: LCSD 550-298982/3-A
Matrix: Water
Analysis Batch: 299908

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	20.0	21.8		mg/L		109	85 - 115	1	20

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 299621

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND	V1	1.00	1.23	V1	mg/L		123	70 - 130

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 299621

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Boron	4.6		1.00	5.60	M3	mg/L		101	70 - 130	
Iron	12	M3	1.00	12.9	M3	mg/L		107	70 - 130	
Magnesium	330	M3	21.0	343	M3	mg/L		77	70 - 130	
Manganese	2.4		1.00	3.23		mg/L		86	70 - 130	
Potassium	6.0	M1	20.0	36.1	M1	mg/L		151	70 - 130	

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 299740

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Calcium	830	M3	21.0	830	M3	mg/L		9	70 - 130	

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 299908

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Sodium	2800	M3	20.0	2760	M3	mg/L		-230	70 - 130	

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 299621

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	
				Result	Qualifier				Limits	RPD	Limit	
Beryllium	ND	V1	1.00	1.17	V1	mg/L		117	70 - 130		5	20
Boron	4.6		1.00	5.60	M3	mg/L		101	70 - 130		0	20
Iron	12	M3	1.00	12.3	M3	mg/L		52	70 - 130		4	20
Magnesium	330	M3	21.0	336	M3	mg/L		40	70 - 130		2	20
Manganese	2.4		1.00	3.25		mg/L		88	70 - 130		1	20
Potassium	6.0	M1	20.0	32.6	M1	mg/L		133	70 - 130		10	20

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 299740

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	
				Result	Qualifier				Limits	RPD	Limit	
Beryllium	ND		1.00	1.25		mg/L		125	70 - 130		2	20
Boron	4.7		1.00	5.75	M3	mg/L		101	70 - 130		1	20
Calcium	830	M3	21.0	830	M3	mg/L		8	70 - 130		0	20
Iron	13	M3	1.00	13.5	M3	mg/L		76	70 - 130		1	20
Magnesium	340		21.0	363	M3	mg/L		84	70 - 130		0	20
Manganese	2.4		1.00	3.29		mg/L		93	70 - 130		1	20
Potassium	5.4	M1	20.0	35.3	M1	mg/L		150	70 - 130		2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 299908

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 298982

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	
Sodium	2800	M3	20.0	2730	M3	mg/L		-407	70 - 130	1	20

Lab Sample ID: MB 280-610141/1-A
Matrix: Water
Analysis Batch: 611202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610141

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		04/28/23 07:53	05/03/23 18:29	1

Lab Sample ID: LCS 280-610141/2-A
Matrix: Water
Analysis Batch: 611202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610141

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Lithium	1.00	0.944		mg/L		94	90 - 112

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 611202

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 610141

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	
Lithium	0.34		1.00	1.45		mg/L		111	70 - 130		

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 611202

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA
Prep Batch: 610141

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	
Lithium	0.34		1.00	1.46		mg/L		112	70 - 130	1	20

Lab Sample ID: 550-201150-35 MS
Matrix: Water
Analysis Batch: 611202

Client Sample ID: CH-CCR-M64A-0423
Prep Type: Total/NA
Prep Batch: 610141

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Lithium	0.29		1.00	1.41		mg/L		112	70 - 130

Lab Sample ID: 550-201150-35 MSD
Matrix: Water
Analysis Batch: 611202

Client Sample ID: CH-CCR-M64A-0423
Prep Type: Total/NA
Prep Batch: 610141

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	
Lithium	0.29		1.00	1.36		mg/L		107	70 - 130	4	20

Lab Sample ID: MB 280-610338/1-A
Matrix: Water
Analysis Batch: 610715

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610338

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		04/27/23 14:37	04/28/23 23:54	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCS 280-610338/2-A
Matrix: Water
Analysis Batch: 610715

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lithium	1.00	0.916		mg/L		92	90 - 112

Lab Sample ID: 280-175617-B-1-B MS
Matrix: Water
Analysis Batch: 610715

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 610338

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lithium	ND		1.00	0.951		mg/L		94	70 - 130

Lab Sample ID: 280-175617-B-1-C MSD
Matrix: Water
Analysis Batch: 610715

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 610338

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Lithium	ND		1.00	0.935		mg/L		92	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-298881/1-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298881

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/23 04:23	05/18/23 20:34	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/23 04:23	05/18/23 20:34	1

Lab Sample ID: LCS 550-298881/2-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	0.100	0.0975		mg/L		98	85 - 115
Cobalt	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-298881/3-A
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298881

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	0.100	0.0944		mg/L		94	85 - 115	3	20
Cobalt	0.100	0.0979		mg/L		98	85 - 115	4	20

Lab Sample ID: MB 550-298882/1-A
Matrix: Water
Analysis Batch: 300631

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298882

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/25/23 04:29	05/19/23 08:36	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/25/23 04:29	05/19/23 08:36	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-298882/2-A
Matrix: Water
Analysis Batch: 300631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298882

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0967		mg/L		97	85 - 115
Cobalt	0.100	0.0982		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-298882/3-A
Matrix: Water
Analysis Batch: 300631

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298882

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0965		mg/L		96	85 - 115	0	20
Cobalt	0.100	0.0981		mg/L		98	85 - 115	0	20

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:32	05/25/23 18:13	1
Barium	0.000261	E4	0.00050	0.00026	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:32	05/25/23 18:13	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:32	05/25/23 18:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:32	05/25/23 18:13	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:32	05/25/23 18:13	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:32	05/25/23 18:13	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:32	05/25/23 18:13	1

Lab Sample ID: MB 550-299086/1-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299086

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		04/27/23 07:32	05/31/23 19:50	1

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0897		mg/L		90	85 - 115
Arsenic	0.100	0.0934		mg/L		93	85 - 115
Barium	0.100	0.0930		mg/L		93	85 - 115
Cadmium	0.100	0.0958		mg/L		96	85 - 115
Chromium	0.100	0.0928		mg/L		93	85 - 115
Cobalt	0.100	0.0946		mg/L		95	85 - 115
Lead	0.100	0.0973		mg/L		97	85 - 115
Molybdenum	0.100	0.0989		mg/L		99	85 - 115
Thallium	0.100	0.0957		mg/L		96	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-299086/2-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	0.100	0.0965		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0897		mg/L		90	85 - 115	0	20
Arsenic	0.100	0.0943		mg/L		94	85 - 115	1	20
Barium	0.100	0.0943		mg/L		94	85 - 115	1	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	1	20
Chromium	0.100	0.0952		mg/L		95	85 - 115	3	20
Cobalt	0.100	0.0967		mg/L		97	85 - 115	2	20
Lead	0.100	0.0991		mg/L		99	85 - 115	2	20
Molybdenum	0.100	0.0985		mg/L		99	85 - 115	0	20
Thallium	0.100	0.0989		mg/L		99	85 - 115	3	20

Lab Sample ID: LCSD 550-299086/3-A
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	0.100	0.0966		mg/L		97	85 - 115	0	20

Lab Sample ID: 550-200842-H-7-A MS ^10
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND	E8	0.100	0.105		mg/L		105	70 - 130
Arsenic	0.0032	E4	0.100	0.105		mg/L		102	70 - 130
Barium	0.035		0.100	0.135		mg/L		100	70 - 130
Cadmium	ND	E8	0.100	0.100		mg/L		100	70 - 130
Chromium	ND	E8	0.100	0.0985		mg/L		98	70 - 130
Cobalt	ND	E8	0.100	0.0964		mg/L		96	70 - 130
Lead	ND	E8	0.100	0.0958		mg/L		96	70 - 130
Molybdenum	ND	E8	0.100	0.110		mg/L		110	70 - 130
Thallium	0.00031	E4	0.100	0.0965		mg/L		96	70 - 130

Lab Sample ID: 550-200842-H-7-A MS ^10
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Selenium	ND	E8	0.100	0.126		mg/L		126	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-200842-H-7-B MSD ^10
Matrix: Water
Analysis Batch: 301151

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Antimony	ND	E8	0.100	0.104		mg/L		104	70 - 130	2	20
Arsenic	0.0032	E4	0.100	0.100		mg/L		97	70 - 130	4	20
Barium	0.035		0.100	0.139		mg/L		104	70 - 130	3	20
Cadmium	ND	E8	0.100	0.0996		mg/L		100	70 - 130	1	20
Chromium	ND	E8	0.100	0.0937		mg/L		94	70 - 130	5	20
Cobalt	ND	E8	0.100	0.0936		mg/L		94	70 - 130	3	20
Lead	ND	E8	0.100	0.0955		mg/L		96	70 - 130	0	20
Molybdenum	ND	E8	0.100	0.108		mg/L		108	70 - 130	2	20
Thallium	0.00031	E4	0.100	0.0933		mg/L		93	70 - 130	3	20

Lab Sample ID: 550-200842-H-7-B MSD ^10
Matrix: Water
Analysis Batch: 301436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299086

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Selenium	ND	E8	0.100	0.111		mg/L		111	70 - 130	13	20

Lab Sample ID: MB 550-299087/1-A
Matrix: Water
Analysis Batch: 301273

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299087

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	0.0000540	E4	0.0010	0.000043	mg/L		04/27/23 07:39	05/26/23 17:16	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:39	05/26/23 17:16	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/27/23 07:39	05/26/23 17:16	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:39	05/26/23 17:16	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:39	05/26/23 17:16	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:39	05/26/23 17:16	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:39	05/26/23 17:16	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:39	05/26/23 17:16	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:39	05/26/23 17:16	1

Lab Sample ID: MB 550-299087/1-A
Matrix: Water
Analysis Batch: 301632

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299087

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND	E8	0.0010	0.000043	mg/L		04/27/23 07:39	06/02/23 16:58	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:39	06/02/23 16:58	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/27/23 07:39	06/02/23 16:58	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:39	06/02/23 16:58	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:39	06/02/23 16:58	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:39	06/02/23 16:58	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:39	06/02/23 16:58	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:39	06/02/23 16:58	1
Selenium	0.00104	B1	0.00050	0.000074	mg/L		04/27/23 07:39	06/02/23 16:58	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:39	06/02/23 16:58	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-299087/1-A
Matrix: Water
Analysis Batch: 302185

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299087

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND	E8	0.0010	0.000043	mg/L		04/27/23 07:39	06/13/23 12:20	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:39	06/13/23 12:20	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/27/23 07:39	06/13/23 12:20	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/27/23 07:39	06/13/23 12:20	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/27/23 07:39	06/13/23 12:20	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/27/23 07:39	06/13/23 12:20	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/27/23 07:39	06/13/23 12:20	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/27/23 07:39	06/13/23 12:20	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/27/23 07:39	06/13/23 12:20	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/27/23 07:39	06/13/23 12:20	1

Lab Sample ID: MB 550-299087/1-A
Matrix: Water
Analysis Batch: 302187

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299087

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/27/23 07:39	06/13/23 13:46	1

Lab Sample ID: LCS 550-299087/2-A
Matrix: Water
Analysis Batch: 301273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0904		mg/L		90	85 - 115
Barium	0.100	0.100		mg/L		100	85 - 115
Cadmium	0.100	0.0934		mg/L		93	85 - 115
Chromium	0.100	0.0926		mg/L		93	85 - 115
Cobalt	0.100	0.0934		mg/L		93	85 - 115
Lead	0.100	0.0943		mg/L		94	85 - 115
Molybdenum	0.100	0.0922		mg/L		92	85 - 115
Selenium	0.100	0.0896		mg/L		90	85 - 115
Thallium	0.100	0.0931		mg/L		93	85 - 115

Lab Sample ID: LCS 550-299087/2-A
Matrix: Water
Analysis Batch: 301632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0934		mg/L		93	85 - 115
Barium	0.100	0.109		mg/L		109	85 - 115
Cadmium	0.100	0.0966		mg/L		97	85 - 115
Chromium	0.100	0.0928		mg/L		93	85 - 115
Cobalt	0.100	0.0932		mg/L		93	85 - 115
Lead	0.100	0.0965		mg/L		97	85 - 115
Molybdenum	0.100	0.0982		mg/L		98	85 - 115
Selenium	0.100	0.0936		mg/L		94	85 - 115
Thallium	0.100	0.0961		mg/L		96	85 - 115

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QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-299087/2-A
Matrix: Water
Analysis Batch: 302185

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0886		mg/L		89	85 - 115
Arsenic	0.100	0.0944		mg/L		94	85 - 115
Cadmium	0.100	0.0934		mg/L		93	85 - 115
Chromium	0.100	0.0953		mg/L		95	85 - 115
Cobalt	0.100	0.0954		mg/L		95	85 - 115
Lead	0.100	0.0862		mg/L		86	85 - 115
Molybdenum	0.100	0.0923		mg/L		92	85 - 115
Selenium	0.100	0.0967		mg/L		97	85 - 115
Thallium	0.100	0.0969		mg/L		97	85 - 115

Lab Sample ID: LCS 550-299087/2-A
Matrix: Water
Analysis Batch: 302187

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0956		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-299087/3-A
Matrix: Water
Analysis Batch: 301273

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0857		mg/L		86	85 - 115	1	20
Arsenic	0.100	0.0906		mg/L		91	85 - 115	0	20
Barium	0.100	0.100		mg/L		100	85 - 115	0	20
Cadmium	0.100	0.0924		mg/L		92	85 - 115	1	20
Chromium	0.100	0.0935		mg/L		93	85 - 115	1	20
Cobalt	0.100	0.0931		mg/L		93	85 - 115	0	20
Lead	0.100	0.0947		mg/L		95	85 - 115	0	20
Molybdenum	0.100	0.0934		mg/L		93	85 - 115	1	20
Selenium	0.100	0.0891		mg/L		89	85 - 115	1	20
Thallium	0.100	0.0928		mg/L		93	85 - 115	0	20

Lab Sample ID: LCSD 550-299087/3-A
Matrix: Water
Analysis Batch: 301632

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0908		mg/L		91	85 - 115	1	20
Arsenic	0.100	0.0945		mg/L		94	85 - 115	1	20
Barium	0.100	0.110		mg/L		110	85 - 115	0	20
Cadmium	0.100	0.0971		mg/L		97	85 - 115	1	20
Chromium	0.100	0.0953		mg/L		95	85 - 115	3	20
Cobalt	0.100	0.0930		mg/L		93	85 - 115	0	20
Lead	0.100	0.0966		mg/L		97	85 - 115	0	20
Molybdenum	0.100	0.0975		mg/L		98	85 - 115	1	20
Selenium	0.100	0.0956		mg/L		96	85 - 115	2	20
Thallium	0.100	0.0944		mg/L		94	85 - 115	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-299087/3-A
Matrix: Water
Analysis Batch: 302185

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0888		mg/L		89	85 - 115	0	20
Arsenic	0.100	0.0935		mg/L		94	85 - 115	1	20
Cadmium	0.100	0.0933		mg/L		93	85 - 115	0	20
Chromium	0.100	0.0940		mg/L		94	85 - 115	1	20
Cobalt	0.100	0.0937		mg/L		94	85 - 115	2	20
Lead	0.100	0.0851		mg/L		85	85 - 115	1	20
Molybdenum	0.100	0.0941		mg/L		94	85 - 115	2	20
Selenium	0.100	0.0954		mg/L		95	85 - 115	1	20
Thallium	0.100	0.0942		mg/L		94	85 - 115	3	20

Lab Sample ID: LCSD 550-299087/3-A
Matrix: Water
Analysis Batch: 302187

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Arsenic	0.100	0.0963		mg/L		96	85 - 115	1	20

Lab Sample ID: 550-201150-3 MS
Matrix: Water
Analysis Batch: 301273

Client Sample ID: CH-CCR-M53A-0423
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.0017	E4	0.100	0.112		mg/L		110	70 - 130		
Arsenic	0.0031	E4	0.100	0.102		mg/L		99	70 - 130		
Barium	0.0083		0.100	0.119		mg/L		111	70 - 130		
Cadmium	0.0013		0.100	0.102		mg/L		101	70 - 130		
Chromium	ND	E8	0.100	0.0983		mg/L		98	70 - 130		
Cobalt	0.0084		0.100	0.106		mg/L		97	70 - 130		
Lead	ND	E8	0.100	0.0949		mg/L		95	70 - 130		
Molybdenum	0.033		0.100	0.138		mg/L		106	70 - 130		
Selenium	ND	E8 M2 R4	0.100	0.0823		mg/L		82	70 - 130		
Thallium	0.00041	E4	0.100	0.0922		mg/L		92	70 - 130		

Lab Sample ID: 550-201150-3 MSD
Matrix: Water
Analysis Batch: 301273

Client Sample ID: CH-CCR-M53A-0423
Prep Type: Total/NA
Prep Batch: 299087

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.0017	E4	0.100	0.0992		mg/L		98	70 - 130	12	20
Arsenic	0.0031	E4	0.100	0.0904		mg/L		87	70 - 130	12	20
Barium	0.0083		0.100	0.115		mg/L		107	70 - 130	3	20
Cadmium	0.0013		0.100	0.0918		mg/L		90	70 - 130	11	20
Chromium	ND	E8	0.100	0.0871		mg/L		87	70 - 130	12	20
Cobalt	0.0084		0.100	0.0957		mg/L		87	70 - 130	10	20
Lead	ND	E8	0.100	0.0891		mg/L		89	70 - 130	6	20
Molybdenum	0.033		0.100	0.123		mg/L		90	70 - 130	12	20
Selenium	ND	E8 M2 R4	0.100	0.0582	M2 R4	mg/L		58	70 - 130	34	20
Thallium	0.00041	E4	0.100	0.0857		mg/L		85	70 - 130	7	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-200842-A-2-B MS ^10
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Arsenic	ND	E8	0.100	0.103		mg/L		103	70 - 130	
Cobalt	0.011		0.100	0.111		mg/L		100	70 - 130	

Lab Sample ID: 550-200842-A-2-C MSD ^10
Matrix: Water
Analysis Batch: 300630

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 298881

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit
Arsenic	ND	E8	0.100	0.0995		mg/L		100	70 - 130	3	20
Cobalt	0.011		0.100	0.109		mg/L		98	70 - 130	2	20

Lab Sample ID: 550-201150-24 MS
Matrix: Water
Analysis Batch: 300631

Client Sample ID: CH-CCR-W306-0423
Prep Type: Dissolved
Prep Batch: 298882

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	RPD
Arsenic	0.0029	E4	0.100	0.109		mg/L		106	70 - 130	
Cobalt	0.0015	E4	0.100	0.102		mg/L		100	70 - 130	

Lab Sample ID: 550-201150-24 MSD
Matrix: Water
Analysis Batch: 300631

Client Sample ID: CH-CCR-W306-0423
Prep Type: Dissolved
Prep Batch: 298882

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit
Arsenic	0.0029	E4	0.100	0.118		mg/L		115	70 - 130	8	20
Cobalt	0.0015	E4	0.100	0.109		mg/L		108	70 - 130	7	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-298870/1-A
Matrix: Water
Analysis Batch: 298879

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298870

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		04/24/23 16:36	04/24/23 21:14	1

Lab Sample ID: LCS 550-298870/2-A
Matrix: Water
Analysis Batch: 298879

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298870

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	
							Result	Qualifier
Mercury	0.00500	0.00474		mg/L		95	85 - 115	

Lab Sample ID: LCSD 550-298870/3-A
Matrix: Water
Analysis Batch: 298879

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298870

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	
							Result	Qualifier
Mercury	0.00500	0.00461		mg/L		92	85 - 115	3

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-201117-L-1-A MS
Matrix: Water
Analysis Batch: 298879

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 298870

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00516		mg/L		103	70 - 130

Lab Sample ID: 550-201117-L-1-B MSD
Matrix: Water
Analysis Batch: 298879

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 298870

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND		0.00500	0.00494		mg/L		99	70 - 130	5	20

Lab Sample ID: MB 550-299062/1-A
Matrix: Water
Analysis Batch: 299083

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299062

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		04/26/23 16:26	04/26/23 19:44	1

Lab Sample ID: LCS 550-299062/2-A
Matrix: Water
Analysis Batch: 299083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299062

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00459		mg/L		92	85 - 115

Lab Sample ID: LCSD 550-299062/3-A
Matrix: Water
Analysis Batch: 299083

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299062

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	0.00500	0.00478		mg/L		96	85 - 115	4	20

Lab Sample ID: 550-200528-D-12-B MS
Matrix: Water
Analysis Batch: 299083

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299062

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00519		mg/L		104	70 - 130

Lab Sample ID: 550-200528-D-12-C MSD
Matrix: Water
Analysis Batch: 299083

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299062

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Mercury	ND		0.00500	0.00510		mg/L		102	70 - 130	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-299032/60
Matrix: Water
Analysis Batch: 299032

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			04/26/23 11:40	1

Lab Sample ID: LCS 550-299032/61
Matrix: Water
Analysis Batch: 299032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.966		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-299032/62
Matrix: Water
Analysis Batch: 299032

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.944		mg/L		94	90 - 110	2	20

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 299032

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND	M2	1.00	0.871	M2	mg/L		87	90 - 110

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 299032

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND	M2	1.00	0.975		mg/L		98	90 - 110	11	20

Lab Sample ID: 550-201150-21 MS
Matrix: Water
Analysis Batch: 299032

Client Sample ID: CH-CCR-W303-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND	M2	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: 550-201150-21 MSD
Matrix: Water
Analysis Batch: 299032

Client Sample ID: CH-CCR-W303-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND	M2	1.00	0.877	M2	mg/L		88	90 - 110	14	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-610414/22
Matrix: Water
Analysis Batch: 610414

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			04/27/23 10:46	1

Lab Sample ID: MB 280-610414/60
Matrix: Water
Analysis Batch: 610414

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			04/27/23 12:03	1

Lab Sample ID: LCS 280-610414/21
Matrix: Water
Analysis Batch: 610414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.02		mg/L		100	90 - 110

Lab Sample ID: LCS 280-610414/59
Matrix: Water
Analysis Batch: 610414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.01		mg/L		100	90 - 110

Lab Sample ID: 550-201150-5 MS
Matrix: Water
Analysis Batch: 610414

Client Sample ID: CH-CCR-M55A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.63		4.00	4.57		mg/L		99	90 - 110

Lab Sample ID: 550-201150-5 MSD
Matrix: Water
Analysis Batch: 610414

Client Sample ID: CH-CCR-M55A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.63		4.00	4.52		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-201150-25 MS
Matrix: Water
Analysis Batch: 610414

Client Sample ID: CH-CCR-W308-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.12		4.00	4.18		mg/L		101	90 - 110

Lab Sample ID: 550-201150-25 MSD
Matrix: Water
Analysis Batch: 610414

Client Sample ID: CH-CCR-W308-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.12		4.00	4.23		mg/L		103	90 - 110	1	10

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-298888/3
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/24/23 13:54	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/24/23 13:54	1

Lab Sample ID: LCS 550-298888/4
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	266		mg/L		107	90 - 110

Lab Sample ID: LCSD 550-298888/17
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110	7	20

Lab Sample ID: 550-201115-A-8 DU
Matrix: Water
Analysis Batch: 298888

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	230		226		mg/L		0	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	230		226		mg/L		0	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: MB 550-298983/4
Matrix: Water
Analysis Batch: 298983

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/25/23 14:11	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/25/23 14:11	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/25/23 14:11	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/25/23 14:11	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/25/23 14:11	1

Lab Sample ID: LCS 550-298983/3
Matrix: Water
Analysis Batch: 298983

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-298983/13
Matrix: Water
Analysis Batch: 298983

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	248		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-201150-21 DU
Matrix: Water
Analysis Batch: 298983

Client Sample ID: CH-CCR-W303-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	160		157		mg/L		0.08	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	160		157		mg/L		0.08	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: MB 550-299088/4
Matrix: Water
Analysis Batch: 299088

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			04/26/23 15:39	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			04/26/23 15:39	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/26/23 15:39	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			04/26/23 15:39	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			04/26/23 15:39	1

Lab Sample ID: LCS 550-299088/3
Matrix: Water
Analysis Batch: 299088

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	250		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-299088/16
Matrix: Water
Analysis Batch: 299088

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110	2	20

Lab Sample ID: 550-201150-17 DU
Matrix: Water
Analysis Batch: 299088

Client Sample ID: CH-CCR-MW74M-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	84		84.3		mg/L		0.5	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	84		84.3		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-298876/1
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/24/23 18:20	1

Lab Sample ID: LCS 550-298876/2
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1030		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-298876/3
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-201017-C-4 DU
Matrix: Water
Analysis Batch: 298876

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	9900		9720		mg/L		1	10

Lab Sample ID: MB 550-298937/1
Matrix: Water
Analysis Batch: 298937

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/25/23 14:02	1

Lab Sample ID: LCS 550-298937/2
Matrix: Water
Analysis Batch: 298937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-298937/3
Matrix: Water
Analysis Batch: 298937

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110	0	10

Lab Sample ID: 550-201041-A-2 DU
Matrix: Water
Analysis Batch: 298937

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	110		104		mg/L		6	10

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: 550-201110-D-4 DU
Matrix: Water
Analysis Batch: 298937

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	15000		15100		mg/L		3	10

Lab Sample ID: MB 550-299055/1
Matrix: Water
Analysis Batch: 299055

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/26/23 15:41	1

Lab Sample ID: LCS 550-299055/2
Matrix: Water
Analysis Batch: 299055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	994		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-299055/3
Matrix: Water
Analysis Batch: 299055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	986		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-201150-5 DU
Matrix: Water
Analysis Batch: 299055

Client Sample ID: CH-CCR-M55A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000		11900		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-299146/25
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299146/37
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-299146/49
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299146/61
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: 550-200842-C-7 DU
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	H5	7.5	H5	SU		0.1	5
Temperature	15.7	H5	15.7	H5	Degrees C		0	

Lab Sample ID: 550-201150-7 DU
Matrix: Water
Analysis Batch: 299146

Client Sample ID: CH-CCR-MW69A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5	H5	7.5	H5	SU		0.1	5
Temperature	15.5	H5 T5	15.6	H5	Degrees C		0.6	

Lab Sample ID: 550-201150-27 DU
Matrix: Water
Analysis Batch: 299146

Client Sample ID: CH-CCR-W309-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5	H5	7.6	H5	SU		0.1	5
Temperature	18.7	H5 T5	18.7	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-298981/5
Matrix: Water
Analysis Batch: 298981

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			04/25/23 15:28	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			04/25/23 15:28	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			04/25/23 15:28	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 550-298981/6
Matrix: Water
Analysis Batch: 298981

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	20.7		mg/L		103	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	20.7		mg/L		103	90 - 110
Dissolved Organic Carbon - Quad	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-298981/7
Matrix: Water
Analysis Batch: 298981

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	20.5		mg/L		103	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	20.5		mg/L		103	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	20.5		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-201150-1 MS
Matrix: Water
Analysis Batch: 298981

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	1.8	T5	20.0	21.5		mg/L		99	90 - 110
Dissolved Organic Carbon - Duplicate	1.8	T5	20.0	21.5		mg/L		99	90 - 110
Dissolved Organic Carbon - Quad	1.8	T5	20.0	21.5		mg/L		99	90 - 110

Lab Sample ID: 550-201150-1 MSD
Matrix: Water
Analysis Batch: 298981

Client Sample ID: CH-CCR-M52A-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.8	T5	20.0	21.4		mg/L		98	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	1.8	T5	20.0	21.4		mg/L		98	90 - 110	0	20
Dissolved Organic Carbon - Quad	1.8	T5	20.0	21.4		mg/L		98	90 - 110	0	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 299389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	300.0	
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	300.0	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	300.0	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	300.0	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	300.0	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	300.0	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	300.0	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	300.0	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	300.0	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	300.0	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	300.0	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	300.0	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	300.0	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	300.0	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	300.0	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	300.0	
MB 550-299389/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299389/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299389/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201499-A-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-201499-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 299390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	300.0	
MB 550-299390/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299390/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299390/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201235-J-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-201235-J-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 299391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	300.0	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	300.0	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	300.0	
MB 550-299391/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299391/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299391/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201154-A-2 MS ^100	Matrix Spike	Total/NA	Water	300.0	
550-201154-A-2 MSD ^100	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 299477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	300.0	
MB 550-299477/1038	Method Blank	Total/NA	Water	300.0	
MB 550-299477/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299477/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299477/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201150-13 MS	CH-CCR-MW72M-0423	Total/NA	Water	300.0	
550-201150-13 MSD	CH-CCR-MW72M-0423	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 299479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	300.0	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	300.0	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	300.0	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	300.0	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	300.0	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	300.0	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	300.0	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	300.0	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	300.0	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	300.0	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	300.0	
MB 550-299479/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299479/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299479/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201578-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-201578-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 299480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	300.0	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	300.0	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	300.0	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	300.0	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	300.0	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	300.0	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	300.0	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	300.0	
MB 550-299480/2	Method Blank	Total/NA	Water	300.0	
LCS 550-299480/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-299480/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201561-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-201561-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 298870

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	245.1	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	245.1	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	245.1	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	245.1	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	245.1	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	245.1	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	245.1	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	245.1	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	245.1	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	245.1	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	245.1	
MB 550-298870/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-298870/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-298870/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 298870 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201117-L-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-201117-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 298879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	245.1	298870
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	245.1	298870
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	245.1	298870
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	245.1	298870
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	245.1	298870
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	245.1	298870
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	245.1	298870
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	245.1	298870
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	245.1	298870
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	245.1	298870
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	245.1	298870
MB 550-298870/1-A	Method Blank	Total/NA	Water	245.1	298870
LCS 550-298870/2-A	Lab Control Sample	Total/NA	Water	245.1	298870
LCSD 550-298870/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	298870
550-201117-L-1-A MS	Matrix Spike	Total/NA	Water	245.1	298870
550-201117-L-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	298870

Prep Batch: 298881

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-2	CH-CCR-M52A-0423	Dissolved	Water	200.8	
550-201150-4	CH-CCR-M53A-0423	Dissolved	Water	200.8	
550-201150-6	CH-CCR-M55A-0423	Dissolved	Water	200.8	
550-201150-8	CH-CCR-MW69A-0423	Dissolved	Water	200.8	
550-201150-10	CH-CCR-MW70M-0423	Dissolved	Water	200.8	
550-201150-12	CH-CCR-MW71A-0423	Dissolved	Water	200.8	
550-201150-14	CH-CCR-MW72M-0423	Dissolved	Water	200.8	
550-201150-16	CH-CCR-MW73A-0423	Dissolved	Water	200.8	
550-201150-18	CH-CCR-MW74M-0423	Dissolved	Water	200.8	
550-201150-20	CH-CCR-W301-0423	Dissolved	Water	200.8	
550-201150-22	CH-CCR-W303-0423	Dissolved	Water	200.8	
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-A-2-B MS ^10	Matrix Spike	Dissolved	Water	200.8	
550-200842-A-2-C MSD ^10	Matrix Spike Duplicate	Dissolved	Water	200.8	

Prep Batch: 298882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-24	CH-CCR-W306-0423	Dissolved	Water	200.8	
550-201150-26	CH-CCR-W308-0423	Dissolved	Water	200.8	
550-201150-28	CH-CCR-W309-0423	Dissolved	Water	200.8	
550-201150-30	CH-CCR-W314-0423	Dissolved	Water	200.8	
550-201150-32	CH-CCR-M50A-0423	Dissolved	Water	200.8	
550-201150-34	CH-CCR-M51A-0423	Dissolved	Water	200.8	
550-201150-36	CH-CCR-M64A-0423	Dissolved	Water	200.8	
550-201150-38	CH-CCR-W123R-0423	Dissolved	Water	200.8	

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 298882 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-41	CH-CCR-BudHunt-0423	Dissolved	Water	200.8	
MB 550-298882/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-298882/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-298882/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-201150-24 MS	CH-CCR-W306-0423	Dissolved	Water	200.8	
550-201150-24 MSD	CH-CCR-W306-0423	Dissolved	Water	200.8	

Prep Batch: 298883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-2	CH-CCR-M52A-0423	Dissolved	Water	200.7	
550-201150-4	CH-CCR-M53A-0423	Dissolved	Water	200.7	
550-201150-6	CH-CCR-M55A-0423	Dissolved	Water	200.7	
550-201150-8	CH-CCR-MW69A-0423	Dissolved	Water	200.7	
550-201150-10	CH-CCR-MW70M-0423	Dissolved	Water	200.7	
550-201150-12	CH-CCR-MW71A-0423	Dissolved	Water	200.7	
550-201150-14	CH-CCR-MW72M-0423	Dissolved	Water	200.7	
550-201150-16	CH-CCR-MW73A-0423	Dissolved	Water	200.7	
550-201150-18	CH-CCR-MW74M-0423	Dissolved	Water	200.7	
550-201150-20	CH-CCR-W301-0423	Dissolved	Water	200.7	
550-201150-22	CH-CCR-W303-0423	Dissolved	Water	200.7	
550-201150-24	CH-CCR-W306-0423	Dissolved	Water	200.7	
550-201150-26	CH-CCR-W308-0423	Dissolved	Water	200.7	
550-201150-28	CH-CCR-W309-0423	Dissolved	Water	200.7	
550-201150-30	CH-CCR-W314-0423	Dissolved	Water	200.7	
550-201150-32	CH-CCR-M50A-0423	Dissolved	Water	200.7	
550-201150-34	CH-CCR-M51A-0423	Dissolved	Water	200.7	
550-201150-36	CH-CCR-M64A-0423	Dissolved	Water	200.7	
550-201150-38	CH-CCR-W123R-0423	Dissolved	Water	200.7	
550-201150-41	CH-CCR-BudHunt-0423	Dissolved	Water	200.7	
MB 550-298883/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298883/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298883/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201150-2 MS	CH-CCR-M52A-0423	Dissolved	Water	200.7	
550-201150-2 MSD	CH-CCR-M52A-0423	Dissolved	Water	200.7	

Prep Batch: 298980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.7	
MB 550-298980/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298980/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298980/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
380-44514-A-3-A MS	Matrix Spike	Total/NA	Water	200.7	
380-44514-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 298982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.7	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.7	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 298982 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.7	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.7	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.7	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.7	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.7	
MB 550-298982/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298982/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298982/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7	
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7	

Prep Batch: 299062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	245.1	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	245.1	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	245.1	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	245.1	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	245.1	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	245.1	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	245.1	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	245.1	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	245.1	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	245.1	
MB 550-299062/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-299062/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-299062/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-200528-D-12-B MS	Matrix Spike	Total/NA	Water	245.1	
550-200528-D-12-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 299083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	245.1	299062
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	245.1	299062
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	245.1	299062
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	245.1	299062
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	245.1	299062
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	245.1	299062
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	245.1	299062
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	245.1	299062
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	245.1	299062
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	245.1	299062

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 299083 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-299062/1-A	Method Blank	Total/NA	Water	245.1	299062
LCS 550-299062/2-A	Lab Control Sample	Total/NA	Water	245.1	299062
LCSD 550-299062/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	299062
550-200528-D-12-B MS	Matrix Spike	Total/NA	Water	245.1	299062
550-200528-D-12-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	299062

Prep Batch: 299086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.8	
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 299087

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.8	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.8	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.8	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.8	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.8	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.8	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.8	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.8	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.8	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.8	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.8	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.8	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.8	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.8	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.8	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.8	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.8	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.8	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.8	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.8	
MB 550-299087/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-299087/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-299087/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-201150-3 MS	CH-CCR-M53A-0423	Total/NA	Water	200.8	
550-201150-3 MSD	CH-CCR-M53A-0423	Total/NA	Water	200.8	

Analysis Batch: 299621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7 Rev 4.4	298982

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 299621 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.7 Rev 4.4	298982
MB 550-298982/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298982
LCS 550-298982/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298982
LCSD 550-298982/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982

Analysis Batch: 299740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.7 Rev 4.4	298982
MB 550-298982/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298982
LCS 550-298982/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298982
LCSD 550-298982/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982

Analysis Batch: 299799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-2	CH-CCR-M52A-0423	Dissolved	Water	200.7	298883
550-201150-4	CH-CCR-M53A-0423	Dissolved	Water	200.7	298883

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 299799 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-6	CH-CCR-M55A-0423	Dissolved	Water	200.7	298883
550-201150-8	CH-CCR-MW69A-0423	Dissolved	Water	200.7	298883
550-201150-10	CH-CCR-MW70M-0423	Dissolved	Water	200.7	298883
550-201150-12	CH-CCR-MW71A-0423	Dissolved	Water	200.7	298883
550-201150-16	CH-CCR-MW73A-0423	Dissolved	Water	200.7	298883
550-201150-18	CH-CCR-MW74M-0423	Dissolved	Water	200.7	298883
550-201150-20	CH-CCR-W301-0423	Dissolved	Water	200.7	298883
550-201150-22	CH-CCR-W303-0423	Dissolved	Water	200.7	298883
550-201150-24	CH-CCR-W306-0423	Dissolved	Water	200.7	298883
550-201150-26	CH-CCR-W308-0423	Dissolved	Water	200.7	298883
550-201150-28	CH-CCR-W309-0423	Dissolved	Water	200.7	298883
550-201150-30	CH-CCR-W314-0423	Dissolved	Water	200.7	298883
550-201150-32	CH-CCR-M50A-0423	Dissolved	Water	200.7	298883
550-201150-34	CH-CCR-M51A-0423	Dissolved	Water	200.7	298883
550-201150-36	CH-CCR-M64A-0423	Dissolved	Water	200.7	298883
550-201150-38	CH-CCR-W123R-0423	Dissolved	Water	200.7	298883
550-201150-41	CH-CCR-BudHunt-0423	Dissolved	Water	200.7	298883
MB 550-298883/1-A	Method Blank	Total/NA	Water	200.7	298883
LCS 550-298883/2-A	Lab Control Sample	Total/NA	Water	200.7	298883
LCSD 550-298883/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	298883
550-201150-2 MS	CH-CCR-M52A-0423	Dissolved	Water	200.7	298883
550-201150-2 MSD	CH-CCR-M52A-0423	Dissolved	Water	200.7	298883

Analysis Batch: 299800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.7 Rev 4.4	298980
MB 550-298980/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298980
LCS 550-298980/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298980
LCSD 550-298980/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298980
380-44514-A-3-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	298980
380-44514-A-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	298980

Analysis Batch: 299908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7 Rev 4.4	298982
MB 550-298982/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298982
LCS 550-298982/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298982
LCSD 550-298982/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298982

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 299908 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	298982

Analysis Batch: 300630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-2	CH-CCR-M52A-0423	Dissolved	Water	200.8 LL	298881
550-201150-4	CH-CCR-M53A-0423	Dissolved	Water	200.8 LL	298881
550-201150-6	CH-CCR-M55A-0423	Dissolved	Water	200.8 LL	298881
550-201150-8	CH-CCR-MW69A-0423	Dissolved	Water	200.8 LL	298881
550-201150-10	CH-CCR-MW70M-0423	Dissolved	Water	200.8 LL	298881
550-201150-12	CH-CCR-MW71A-0423	Dissolved	Water	200.8 LL	298881
550-201150-14	CH-CCR-MW72M-0423	Dissolved	Water	200.8 LL	298881
550-201150-16	CH-CCR-MW73A-0423	Dissolved	Water	200.8 LL	298881
550-201150-18	CH-CCR-MW74M-0423	Dissolved	Water	200.8 LL	298881
550-201150-20	CH-CCR-W301-0423	Dissolved	Water	200.8 LL	298881
550-201150-22	CH-CCR-W303-0423	Dissolved	Water	200.8 LL	298881
MB 550-298881/1-A	Method Blank	Total/NA	Water	200.8 LL	298881
LCS 550-298881/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	298881
LCSD 550-298881/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	298881
550-200842-A-2-B MS ^10	Matrix Spike	Dissolved	Water	200.8 LL	298881
550-200842-A-2-C MSD ^10	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	298881

Analysis Batch: 300631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-24	CH-CCR-W306-0423	Dissolved	Water	200.8 LL	298882
550-201150-26	CH-CCR-W308-0423	Dissolved	Water	200.8 LL	298882
550-201150-28	CH-CCR-W309-0423	Dissolved	Water	200.8 LL	298882
550-201150-30	CH-CCR-W314-0423	Dissolved	Water	200.8 LL	298882
550-201150-32	CH-CCR-M50A-0423	Dissolved	Water	200.8 LL	298882
550-201150-34	CH-CCR-M51A-0423	Dissolved	Water	200.8 LL	298882
550-201150-36	CH-CCR-M64A-0423	Dissolved	Water	200.8 LL	298882
550-201150-38	CH-CCR-W123R-0423	Dissolved	Water	200.8 LL	298882
550-201150-41	CH-CCR-BudHunt-0423	Dissolved	Water	200.8 LL	298882
MB 550-298882/1-A	Method Blank	Total/NA	Water	200.8 LL	298882
LCS 550-298882/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	298882
LCSD 550-298882/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	298882
550-201150-24 MS	CH-CCR-W306-0423	Dissolved	Water	200.8 LL	298882
550-201150-24 MSD	CH-CCR-W306-0423	Dissolved	Water	200.8 LL	298882

Analysis Batch: 300842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-14	CH-CCR-MW72M-0423	Dissolved	Water	200.7	298883

Analysis Batch: 301151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	299086
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	299086

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 301273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.8 LL	299087
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.8 LL	299087
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.8 LL	299087
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.8 LL	299087
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.8 LL	299087
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.8 LL	299087
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.8 LL	299087
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.8 LL	299087
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.8 LL	299087
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.8 LL	299087
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.8 LL	299087
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.8 LL	299087
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.8 LL	299087
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.8 LL	299087
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.8 LL	299087
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.8 LL	299087
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.8 LL	299087
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.8 LL	299087
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.8 LL	299087
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.8 LL	299087
MB 550-299087/1-A	Method Blank	Total/NA	Water	200.8 LL	299087
LCS 550-299087/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299087
LCSD 550-299087/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299087
550-201150-3 MS	CH-CCR-M53A-0423	Total/NA	Water	200.8 LL	299087
550-201150-3 MSD	CH-CCR-M53A-0423	Total/NA	Water	200.8 LL	299087

Analysis Batch: 301436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.8 LL	299086
MB 550-299086/1-A	Method Blank	Total/NA	Water	200.8 LL	299086
LCS 550-299086/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299086
LCSD 550-299086/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299086
550-200842-H-7-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	299086
550-200842-H-7-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	299086

Analysis Batch: 301632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.8 LL	299087
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.8 LL	299087
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.8 LL	299087
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.8 LL	299087
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.8 LL	299087
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.8 LL	299087
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.8 LL	299087
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.8 LL	299087
MB 550-299087/1-A	Method Blank	Total/NA	Water	200.8 LL	299087
LCS 550-299087/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299087
LCSD 550-299087/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299087

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 302185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.8 LL	299087
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.8 LL	299087
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.8 LL	299087
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.8 LL	299087
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.8 LL	299087
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.8 LL	299087
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.8 LL	299087
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.8 LL	299087
MB 550-299087/1-A	Method Blank	Total/NA	Water	200.8 LL	299087
LCS 550-299087/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299087
LCSD 550-299087/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299087

Analysis Batch: 302187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.8 LL	299087
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.8 LL	299087
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.8 LL	299087
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.8 LL	299087
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.8 LL	299087
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.8 LL	299087
MB 550-299087/1-A	Method Blank	Total/NA	Water	200.8 LL	299087
LCS 550-299087/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	299087
LCSD 550-299087/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	299087

Prep Batch: 610141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.7	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.7	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.7	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.7	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.7	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.7	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7	
MB 280-610141/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-610141/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7	
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7	
550-201150-35 MS	CH-CCR-M64A-0423	Total/NA	Water	200.7	
550-201150-35 MSD	CH-CCR-M64A-0423	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Metals

Prep Batch: 610338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.7	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.7	
MB 280-610338/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-610338/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-175617-B-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-175617-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 610715

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	200.7 Rev 4.4	610338
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	200.7 Rev 4.4	610338
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	200.7 Rev 4.4	610338
MB 280-610338/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	610338
LCS 280-610338/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	610338
280-175617-B-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	610338
280-175617-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	610338

Analysis Batch: 611202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	610141
MB 280-610141/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	610141
LCS 280-610141/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-35 MS	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	610141
550-201150-35 MSD	CH-CCR-M64A-0423	Total/NA	Water	200.7 Rev 4.4	610141

General Chemistry

Analysis Batch: 298876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	SM 2540C	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	SM 2540C	

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 298876 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	SM 2540C	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	SM 2540C	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	SM 2540C	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	SM 2540C	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	SM 2540C	
MB 550-298876/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298876/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298876/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201017-C-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 298888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	SM 2320B	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	SM 2320B	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	SM 2320B	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	SM 2320B	
MB 550-298888/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-298888/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-298888/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-201115-A-8 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 298937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	SM 2540C	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	SM 2540C	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	SM 2540C	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	SM 2540C	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	SM 2540C	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	SM 2540C	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	SM 2540C	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	SM 2540C	
MB 550-298937/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298937/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298937/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201041-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
550-201110-D-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 298981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Dissolved	Water	SM 5310B	
550-201150-3	CH-CCR-M53A-0423	Dissolved	Water	SM 5310B	
550-201150-5	CH-CCR-M55A-0423	Dissolved	Water	SM 5310B	
550-201150-7	CH-CCR-MW69A-0423	Dissolved	Water	SM 5310B	
550-201150-9	CH-CCR-MW70M-0423	Dissolved	Water	SM 5310B	
550-201150-11	CH-CCR-MW71A-0423	Dissolved	Water	SM 5310B	
550-201150-13	CH-CCR-MW72M-0423	Dissolved	Water	SM 5310B	
550-201150-15	CH-CCR-MW73A-0423	Dissolved	Water	SM 5310B	
550-201150-17	CH-CCR-MW74M-0423	Dissolved	Water	SM 5310B	
550-201150-19	CH-CCR-W301-0423	Dissolved	Water	SM 5310B	
550-201150-21	CH-CCR-W303-0423	Dissolved	Water	SM 5310B	
550-201150-23	CH-CCR-W306-0423	Dissolved	Water	SM 5310B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 298981 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-25	CH-CCR-W308-0423	Dissolved	Water	SM 5310B	
550-201150-27	CH-CCR-W309-0423	Dissolved	Water	SM 5310B	
550-201150-29	CH-CCR-W314-0423	Dissolved	Water	SM 5310B	
550-201150-31	CH-CCR-M50A-0423	Dissolved	Water	SM 5310B	
550-201150-33	CH-CCR-M51A-0423	Dissolved	Water	SM 5310B	
550-201150-35	CH-CCR-M64A-0423	Dissolved	Water	SM 5310B	
550-201150-37	CH-CCR-W123R-0423	Dissolved	Water	SM 5310B	
550-201150-40	CH-CCR-BudHunt-0423	Dissolved	Water	SM 5310B	
MB 550-298981/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-298981/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-298981/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-201150-1 MS	CH-CCR-M52A-0423	Dissolved	Water	SM 5310B	
550-201150-1 MSD	CH-CCR-M52A-0423	Dissolved	Water	SM 5310B	

Analysis Batch: 298983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	SM 2320B	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	SM 2320B	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	SM 2320B	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	SM 2320B	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	SM 2320B	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	SM 2320B	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	SM 2320B	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	SM 2320B	
MB 550-298983/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-298983/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-298983/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-201150-21 DU	CH-CCR-W303-0423	Total/NA	Water	SM 2320B	

Analysis Batch: 299032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	350.1	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	350.1	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	350.1	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	350.1	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	350.1	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	350.1	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	350.1	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	350.1	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	350.1	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	350.1	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	350.1	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	350.1	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	350.1	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	350.1	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	350.1	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	350.1	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	350.1	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	350.1	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	350.1	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	350.1	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299032 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-299032/60	Method Blank	Total/NA	Water	350.1	
LCS 550-299032/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-299032/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-201150-1 MS	CH-CCR-M52A-0423	Total/NA	Water	350.1	
550-201150-1 MSD	CH-CCR-M52A-0423	Total/NA	Water	350.1	
550-201150-21 MS	CH-CCR-W303-0423	Total/NA	Water	350.1	
550-201150-21 MSD	CH-CCR-W303-0423	Total/NA	Water	350.1	

Analysis Batch: 299055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	SM 2540C	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	SM 2540C	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	SM 2540C	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	SM 2540C	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	SM 2540C	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	SM 2540C	
MB 550-299055/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299055/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-299055/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201150-5 DU	CH-CCR-M55A-0423	Total/NA	Water	SM 2540C	

Analysis Batch: 299088

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	SM 2320B	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	SM 2320B	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	SM 2320B	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	SM 2320B	
MB 550-299088/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-299088/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-299088/16	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-201150-17 DU	CH-CCR-MW74M-0423	Total/NA	Water	SM 2320B	

Analysis Batch: 299146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299146 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-39	CH-CCR-W125-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299146/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299146/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299146/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299146/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200842-C-7 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-201150-7 DU	CH-CCR-MW69A-0423	Total/NA	Water	SM 4500 H+ B	
550-201150-27 DU	CH-CCR-W309-0423	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 610414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201150-1	CH-CCR-M52A-0423	Total/NA	Water	353.2	
550-201150-3	CH-CCR-M53A-0423	Total/NA	Water	353.2	
550-201150-5	CH-CCR-M55A-0423	Total/NA	Water	353.2	
550-201150-7	CH-CCR-MW69A-0423	Total/NA	Water	353.2	
550-201150-9	CH-CCR-MW70M-0423	Total/NA	Water	353.2	
550-201150-11	CH-CCR-MW71A-0423	Total/NA	Water	353.2	
550-201150-13	CH-CCR-MW72M-0423	Total/NA	Water	353.2	
550-201150-15	CH-CCR-MW73A-0423	Total/NA	Water	353.2	
550-201150-17	CH-CCR-MW74M-0423	Total/NA	Water	353.2	
550-201150-19	CH-CCR-W301-0423	Total/NA	Water	353.2	
550-201150-21	CH-CCR-W303-0423	Total/NA	Water	353.2	
550-201150-23	CH-CCR-W306-0423	Total/NA	Water	353.2	
550-201150-25	CH-CCR-W308-0423	Total/NA	Water	353.2	
550-201150-27	CH-CCR-W309-0423	Total/NA	Water	353.2	
550-201150-29	CH-CCR-W314-0423	Total/NA	Water	353.2	
550-201150-31	CH-CCR-M50A-0423	Total/NA	Water	353.2	
550-201150-33	CH-CCR-M51A-0423	Total/NA	Water	353.2	
550-201150-35	CH-CCR-M64A-0423	Total/NA	Water	353.2	
550-201150-37	CH-CCR-W123R-0423	Total/NA	Water	353.2	
550-201150-40	CH-CCR-BudHunt-0423	Total/NA	Water	353.2	
MB 280-610414/22	Method Blank	Total/NA	Water	353.2	
MB 280-610414/60	Method Blank	Total/NA	Water	353.2	
LCS 280-610414/21	Lab Control Sample	Total/NA	Water	353.2	
LCS 280-610414/59	Lab Control Sample	Total/NA	Water	353.2	
550-201150-5 MS	CH-CCR-M55A-0423	Total/NA	Water	353.2	
550-201150-5 MSD	CH-CCR-M55A-0423	Total/NA	Water	353.2	
550-201150-25 MS	CH-CCR-W308-0423	Total/NA	Water	353.2	
550-201150-25 MSD	CH-CCR-W308-0423	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-1

Date Collected: 04/19/23 13:07

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299389	AS1	EET PHX	05/01/23 13:58
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 14:17
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:06
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:26
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 18:37
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301151	DSJ	EET PHX	05/25/23 19:02
Total/NA	Prep	200.8			299086	SGO	EET PHX	04/27/23 07:32
Total/NA	Analysis	200.8 LL		10	301436	DSJ	EET PHX	05/31/23 20:37
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:40
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:45
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 11:57
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:22
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 16:11

Client Sample ID: CH-CCR-M52A-0423

Lab Sample ID: 550-201150-2

Date Collected: 04/19/23 13:07

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 18:57
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:03

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-3

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 14:35
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 14:53
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:09
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:29
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:13

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-3

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:26
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:34
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:42
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:50
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 11:59
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:23
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 16:54

Client Sample ID: CH-CCR-M53A-0423

Lab Sample ID: 550-201150-4

Date Collected: 04/19/23 10:38

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:00
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:05

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-5

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 15:12
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 15:30
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:11
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:32
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 21:46
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:17
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:28
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:36
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:48
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:51

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-5

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:05
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:24
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 17:11

Client Sample ID: CH-CCR-M55A-0423

Lab Sample ID: 550-201150-6

Date Collected: 04/20/23 15:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:03
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:12

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-7

Date Collected: 04/19/23 14:10

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 16:44
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 17:02
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:14
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:35
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 21:49
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:22
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:30
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:38
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:50
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:53
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:11
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 19:19
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:30
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 17:23

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-0423

Lab Sample ID: 550-201150-8

Date Collected: 04/19/23 14:10

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:06
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:14

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-9

Date Collected: 04/19/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 17:21
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 17:39
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:17
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:38
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 21:52
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:27
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:32
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:40
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:52
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:54
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:25
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 19:27
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:32
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 17:38

Client Sample ID: CH-CCR-MW70M-0423

Lab Sample ID: 550-201150-10

Date Collected: 04/19/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:09
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:16

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-11

Date Collected: 04/19/23 17:34

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 17:58
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 18:16
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:20
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:41
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:00
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:31
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:34
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:42
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:54
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:56
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:27
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 19:34
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:34
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 17:54

Client Sample ID: CH-CCR-MW71A-0423

Lab Sample ID: 550-201150-12

Date Collected: 04/19/23 17:34

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:12
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:18

Client Sample ID: CH-CCR-MW72M-0423

Lab Sample ID: 550-201150-13

Date Collected: 04/19/23 16:24

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	299477	AS1	EET PHX	05/02/23 12:38
Total/NA	Analysis	300.0		100	299390	AS1	EET PHX	05/01/23 16:39
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		5	299740	GLW	EET PHX	05/05/23 03:43
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		20	299908	GLW	EET PHX	05/08/23 22:03

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Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-0423
Date Collected: 04/19/23 16:24
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-13
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:35
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:36
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:08
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:56
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:57
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:29
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 19:41
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:36
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 18:06

Client Sample ID: CH-CCR-MW72M-0423
Date Collected: 04/19/23 16:24
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-14
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		10	300842	GLW	EET PHX	05/22/23 21:20
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:20

Client Sample ID: CH-CCR-MW73A-0423
Date Collected: 04/20/23 10:11
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-15
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		5	299389	AS1	EET PHX	05/01/23 18:34
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 18:53
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:25
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:46
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:06
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 19:40
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:38
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		20	301632	DSJ	EET PHX	06/02/23 17:04

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-15

Date Collected: 04/20/23 10:11

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		20	302185	DSJ	EET PHX	06/13/23 12:30
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 21:58
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 11:59
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:31
Total/NA	Analysis	SM 2320B		1	299088	MAN	EET PHX	04/26/23 21:21
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:38
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 18:21

Client Sample ID: CH-CCR-MW73A-0423

Lab Sample ID: 550-201150-16

Date Collected: 04/20/23 10:11

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:17
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:22

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-17

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299389	AS1	EET PHX	05/01/23 19:11
Total/NA	Analysis	300.0		200	299389	AS1	EET PHX	05/01/23 19:30
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:28
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:49
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:09
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:06
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:40
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302185	DSJ	EET PHX	06/13/23 12:44
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 22:00
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:00
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:33

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-17

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2320B		1	299088	MAN	EET PHX	04/26/23 21:41
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:39
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 18:35

Client Sample ID: CH-CCR-MW74M-0423

Lab Sample ID: 550-201150-18

Date Collected: 04/20/23 11:08

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:20
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:24

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-19

Date Collected: 04/18/23 17:01

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299479	AS1	EET PHX	05/03/23 00:26
Total/NA	Analysis	300.0		200	299479	AS1	EET PHX	05/03/23 00:54
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:31
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 03:52
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:10
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:42
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:10
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 22:02
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:02
Total/NA	Analysis	353.2		10	610414	ZPM	EET DEN	04/27/23 13:13
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 19:45
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:40
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 18:50

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-0423

Lab Sample ID: 550-201150-20

Date Collected: 04/18/23 17:01

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:23
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:26

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-21

Date Collected: 04/18/23 18:09

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299479	AS1	EET PHX	05/03/23 01:22
Total/NA	Analysis	300.0		200	299479	AS1	EET PHX	05/03/23 01:50
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:40
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:00
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:12
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:15
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:44
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 13:52
Total/NA	Prep	245.1			298870	SRR	EET PHX	04/24/23 16:36
Total/NA	Analysis	245.1		1	298879	SRR	EET PHX	04/24/23 22:04
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:12
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:37
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 20:05
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:42
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 19:32

Client Sample ID: CH-CCR-W303-0423

Lab Sample ID: 550-201150-22

Date Collected: 04/18/23 18:09

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:31
Dissolved	Prep	200.8			298881	SGO	EET PHX	04/25/23 04:23
Dissolved	Analysis	200.8 LL		10	300630	DSJ	EET PHX	05/19/23 08:28

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-23

Date Collected: 04/19/23 11:25

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299479	AS1	EET PHX	05/03/23 02:18
Total/NA	Analysis	300.0		200	299479	AS1	EET PHX	05/03/23 02:46
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:42
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:03
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:19
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:46
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:12
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:00
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:17
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:39
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 20:21
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:44
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 19:44

Client Sample ID: CH-CCR-W306-0423

Lab Sample ID: 550-201150-24

Date Collected: 04/19/23 11:25

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:34
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:46

Client Sample ID: CH-CCR-W308-0423

Lab Sample ID: 550-201150-25

Date Collected: 04/20/23 17:18

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299479	AS1	EET PHX	05/03/23 03:14
Total/NA	Analysis	300.0		200	299479	AS1	EET PHX	05/03/23 03:42
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:45
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:06
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:14

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-0423
Date Collected: 04/20/23 17:18
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:24
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:53
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 13:54
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:02
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:18
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:41
Total/NA	Analysis	SM 2320B		1	299088	MAN	EET PHX	04/26/23 21:55
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:45
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 19:57

Client Sample ID: CH-CCR-W308-0423
Date Collected: 04/20/23 17:18
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-26
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:37
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:48

Client Sample ID: CH-CCR-W309-0423
Date Collected: 04/20/23 14:46
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-27
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299479	AS1	EET PHX	05/03/23 04:10
Total/NA	Analysis	300.0		200	299479	AS1	EET PHX	05/03/23 04:38
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:48
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:09
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:17
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:28
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:55
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 13:56

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-0423
Date Collected: 04/20/23 14:46
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-27
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:04
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:20
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 12:59
Total/NA	Analysis	SM 2320B		1	299088	MAN	EET PHX	04/26/23 22:03
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:48
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 20:09

Client Sample ID: CH-CCR-W309-0423
Date Collected: 04/20/23 14:46
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-28
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:40
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:50

Client Sample ID: CH-CCR-W314-0423
Date Collected: 04/20/23 12:24
Date Received: 04/21/23 14:43

Lab Sample ID: 550-201150-29
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299480	AS1	EET PHX	05/03/23 01:23
Total/NA	Analysis	300.0		200	299480	AS1	EET PHX	05/03/23 01:51
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:51
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:12
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:33
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:57
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 13:58
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:06
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:21
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:01
Total/NA	Analysis	SM 2540C		1	299055	SMA	EET PHX	04/26/23 15:41 - 05/02/23 17:55 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:51
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 20:21

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0423

Lab Sample ID: 550-201150-30

Date Collected: 04/20/23 12:24

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:43
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:52

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-31

Date Collected: 04/17/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299480	AS1	EET PHX	05/03/23 02:19
Total/NA	Analysis	300.0		200	299480	AS1	EET PHX	05/03/23 02:46
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:54
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:15
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:23
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:37
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 17:59
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:14
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:08
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:23
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:03
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 20:01
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:52
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 20:37

Client Sample ID: CH-CCR-M50A-0423

Lab Sample ID: 550-201150-32

Date Collected: 04/17/23 15:20

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:46
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:54

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-33

Date Collected: 04/17/23 14:14

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299480	AS1	EET PHX	05/03/23 03:14
Total/NA	Analysis	300.0		200	299480	AS1	EET PHX	05/03/23 03:42
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:57
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:17
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:26
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 20:41
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 18:01
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		20	301632	DSJ	EET PHX	06/02/23 17:06
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		20	302185	DSJ	EET PHX	06/13/23 12:32
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:10
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:24
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:05
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 20:09
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:53
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 20:50

Client Sample ID: CH-CCR-M51A-0423

Lab Sample ID: 550-201150-34

Date Collected: 04/17/23 14:14

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:48
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:56

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-35

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		25	299479	AS1	EET PHX	05/02/23 16:31
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 03:59

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-35

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:20
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:34
Total/NA	Prep	200.7			610141	LJS	EET DEN	04/28/23 07:53
Total/NA	Analysis	200.7 Rev 4.4		1	611202	ADL	EET DEN	05/03/23 21:07
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 18:03
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 14:00
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:12
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:26
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:07
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 20:15
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:54
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 21:05

Client Sample ID: CH-CCR-M64A-0423

Lab Sample ID: 550-201150-36

Date Collected: 04/17/23 12:15

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:51
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 08:58

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-37

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	299480	AS1	EET PHX	05/02/23 16:32
Total/NA	Analysis	300.0		200	299480	AS1	EET PHX	05/02/23 17:00
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 04:02
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:23
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		10	299908	GLW	EET PHX	05/08/23 22:37
Total/NA	Prep	200.7			610338	LJS	EET DEN	04/27/23 14:37
Total/NA	Analysis	200.7 Rev 4.4		1	610715	ADL	EET DEN	04/29/23 00:41

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-37

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 18:05
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:16
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:18
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:27
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:09
Total/NA	Analysis	SM 2320B		1	298888	MAN	EET PHX	04/24/23 20:26
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:55
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 21:18

Client Sample ID: CH-CCR-W123R-0423

Lab Sample ID: 550-201150-38

Date Collected: 04/17/23 17:47

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:54
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 09:00

Client Sample ID: CH-CCR-W125-0423

Lab Sample ID: 550-201150-39

Date Collected: 04/17/23 16:44

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	299391	AS1	EET PHX	05/01/23 17:35
Total/NA	Analysis	300.0		200	299391	AS1	EET PHX	05/01/23 18:03
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299621	GLW	EET PHX	05/04/23 04:05
Total/NA	Prep	200.7			298982	SGO	EET PHX	04/26/23 09:38
Total/NA	Analysis	200.7 Rev 4.4		1	299740	GLW	EET PHX	05/05/23 04:26
Total/NA	Prep	200.7			610338	LJS	EET DEN	04/27/23 14:37
Total/NA	Analysis	200.7 Rev 4.4		1	610715	ADL	EET DEN	04/29/23 00:46
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 18:07
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301632	DSJ	EET PHX	06/02/23 17:18
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:20
Total/NA	Analysis	SM 2540C		1	298876	JNW	EET PHX	04/24/23 18:20 - 05/01/23 20:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:56

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-40

Date Collected: 04/19/23 09:18

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	299391	AS1	EET PHX	05/01/23 18:31
Total/NA	Prep	200.7			298980	SGO	EET PHX	04/26/23 09:24
Total/NA	Analysis	200.7 Rev 4.4		1	299800	GLW	EET PHX	05/05/23 20:56
Total/NA	Prep	200.7			610338	LJS	EET DEN	04/27/23 14:37
Total/NA	Analysis	200.7 Rev 4.4		1	610715	ADL	EET DEN	04/29/23 00:51
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	301273	DSJ	EET PHX	05/26/23 18:09
Total/NA	Prep	200.8			299087	SGO	EET PHX	04/27/23 07:39
Total/NA	Analysis	200.8 LL		10	302187	DSJ	EET PHX	06/13/23 14:02
Total/NA	Prep	245.1			299062	SRR	EET PHX	04/26/23 16:26
Total/NA	Analysis	245.1		1	299083	SRR	EET PHX	04/26/23 20:22
Total/NA	Analysis	350.1		1	299032	MAN	EET PHX	04/26/23 12:29
Total/NA	Analysis	353.2		1	610414	ZPM	EET DEN	04/27/23 13:11
Total/NA	Analysis	SM 2320B		1	298983	MAN	EET PHX	04/25/23 20:27
Total/NA	Analysis	SM 2540C		1	298937	CXK	EET PHX	04/25/23 14:02 - 05/01/23 18:10 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299146	MAN	EET PHX	04/27/23 14:57
Dissolved	Analysis	SM 5310B		1	298981	RDC	EET PHX	04/25/23 21:34

Client Sample ID: CH-CCR-BudHunt-0423

Lab Sample ID: 550-201150-41

Date Collected: 04/19/23 09:18

Matrix: Water

Date Received: 04/21/23 14:43

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			298883	SGO	EET PHX	04/25/23 06:00
Dissolved	Analysis	200.7		1	299799	GLW	EET PHX	05/05/23 19:57
Dissolved	Prep	200.8			298882	SGO	EET PHX	04/25/23 04:29
Dissolved	Analysis	200.8 LL		10	300631	DSJ	EET PHX	05/19/23 09:02

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-09-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	05-22-23

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201150-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

Client Contact: Natalie Chrisman Lazarr
(602) 250-3608

Lab Contact: Danielle Roberts
Pam Norris (505) 598-8781

Date: 20150
Carrier:

COC No: 1 of 3 COCs
TestAmerica Laboratories, Inc.



Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (BAP)
PO #: 300592358

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Sample Identification

Sample ID	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes	
CH-CCR-M52A-0423	04/19/23	1307	G	W	10	*	X	X				X	X	X	X	X	X	X	X	X	X	X	X	1t2 Low Flow
CH-CCR-M53A-0423	04/19/23	1038	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	3t4 "
CH-CCR-M55A-0423	04/20/23	1547	G	W	10	*	X	X				X	X	X	X	X	X	X	X	X	X	X	X	5t6 "
CH-CCR-MW69A-0423	04/19/23	1410	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	7t8 "
CH-CCR-MW70M-0423	04/19/23	1520	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	9t10 "
CH-CCR-MW71A-0423	04/19/23	1734	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	11t12 "
CH-CCR-MW72M-0423	04/19/23	1624	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	13t14 "
CH-CCR-MW73A-0423	04/20/23	1011	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	15t16 "
CH-CCR-MW74M-0423	04/20/23	1108	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	17t18 "



550-201150 Chain of Custody

Sample Disposal (A fee may be a)

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: Yes No
Cooler Temp. (°C): 3.1
Therm ID No.:

Relinquished by: [Signature]
Date/Time: 4/21/23
Company: [Signature]

Received by: [Signature] Date/Time: 4/21/23 Company: [Signature]
Received in Laboratory by: [Signature] Date/Time: 4/21/23 Company: [Signature]

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

Client Contact: Natalie Chrisman Lazarr (602) 250-3608

Lab Contact: Pam Norris (505) 598-8781 Date: 20150



Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (BAP)
PO #: 30052358

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (G-Comp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	COG No. 2 of 2 COCs	Sample Specific Notes:
CH-CCR-W301-0423	04/18/23	1701	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-19+20 Low Flow	
CH-CCR-W303-0423	04/18/23	1809	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-21+22 "	
CH-CCR-W306-0423	04/19/23	1125	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-23+24 "	
CH-CCR-W308-0423	04/20/23	1718	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-25+26 "	
CH-CCR-W309-0423	04/20/23	1446	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-27+28 "	
CH-CCR-W314-0423	04/20/23	1224	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-29+30 "	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments: Perform Method 200.8 with collision cell. * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No
Custody Seal No.:
Relinquished by: [Signature] Company: WSP Date/Time: 8/16/23 Received by: [Signature] Date/Time: 8/16/23
Relinquished by: [Signature] Company: WSP Date/Time: 8/16/23 Received by: [Signature] Date/Time: 8/16/23
Relinquished by: [Signature] Company: [Signature] Date/Time: 8/16/23 Received by: [Signature] Date/Time: 8/16/23

Cooler Temp. (°C): Obs'd: 21°C
Therm ID No.:
Cord: 3106

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

Client Contact: Natalie Chrisman Lazarr
602) 250-3608

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS

Lab Contact: Pam Norris (505) 598-8781
Carrier: Daniel Roberts

Date: 20150
COC No: 45 of 5 COCs

Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX

Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (FAP)
PO #: 300592358

TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Filtered Sample (Y / N)
Perform MS / MSD (Y / N)
EPA 300.0 (Cl, F, SO4)
EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)
EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)
EPA 200.7 - Totals (B, Ca, Be)
EPA 200.7 - Total Lithium
EPA 200.7 - Dissolved (Fe, Mn)
EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)
EPA 200.8 - Dissolved (As, Co)
EPA 245.1 - Totals (Hg)
SM 4500-HB (pH)
SM 2540C (TDS)
SM 5310B (DOC)
SM 4500-NH3 D (NH3 as N)
353.2 (NO3+NO2 as N)
SM 2320B (HCO3 - Alk. as

Sample Specific Notes:
-31 (-32) Low Flow
-33 (-34) "
-35 (-36) "
-37 (-38) "
-39 "
Port Sample -40 (-41)

Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 - Alk. as	
CH-CCR-M50A-0423	04/17/23	1520	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M51A-0423	04/17/23	1414	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-M64A-0423	04/17/23	1215	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W123R-0423	04/17/23	1747	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W125-0423	04/17/23	1644	G	W	3	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-BudHunt-0423	04/19/23	918	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Perform Method 200.8 with collision cell; * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

Cooler Temp. (°C): Obs'd: 7°C
Therm ID No.:

Custody Seals Intact: Yes No
Relinquished by: [Signature] Company: WSP Date/Time: 01/14/23 Received by: [Signature] Date/Time: 01/14/23
Relinquished by: [Signature] Company: WSP Date/Time: 01/14/23 Received in Laboratory by: [Signature] Date/Time: 01/14/23
Relinquished by: [Signature] Company: WSP Date/Time: 01/14/23 Received in Laboratory by: [Signature] Date/Time: 01/14/23



Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340



Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact: Shipping/Receiving		Phone:	Roberts, Danielle C	State of Origin:	550-36668.1
Company: TestAmerica Laboratories, Inc.		E-Mail:	Danielle.Roberts@et.eurofins.com	Arizona	Page: Page 1 of 3
Address: 4955 Yarrow Street, City: Arvada, State, Zip: CO, 80002		Accreditations Required (See note): State - Arizona; State Program - Arizona		Job #:	550-201150-1
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:	Due Date Requested: 5/4/2023	Preservation Codes:		
Email:	WO #:	TAT Requested (days):	A - HCL	M - Hexane	
Project Name: CCR Groundwater Monitoring	Project #: 55009651		B - NaOH	N - None	
Site: Arizona Public Service	SSOW#:		C - Zn Acetate	O - As/AsO2	
			D - Nitric Acid	P - Na2OAS	
			E - NaHSO4	Q - Na2SO3	
			F - MeOH	R - Na2S2O3	
			G - Amchlor	S - H2SO4	
			H - Ascorbic Acid	T - TSP Dodecahydrate	
			I - Ice	U - Acetone	
			J - DI Water	V - MCAA	
			K - EDTA	W - pH 4-5	
			L - EDA	Y - Trizma	
			Other:	Z - other (specify)	

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-Total	353.2_Pres	Total Number of Containers	Special Instructions/Note:
CH-CCR-M52A-0423 (550-201150-1)	4/19/23	13:07 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-M53A-0423 (550-201150-3)	4/19/23	10:38 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-M55A-0423 (550-201150-5)	4/20/23	15:47 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW69A-0423 (550-201150-7)	4/19/23	14:10 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW70M-0423 (550-201150-9)	4/19/23	15:20 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW71A-0423 (550-201150-11)	4/19/23	17:34 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW72M-0423 (550-201150-13)	4/19/23	16:24 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW73A-0423 (550-201150-15)	4/20/23	10:11 Arizona	Water	Water		X	X	X	X	2	AZ Sample
CH-CCR-MW74M-0423 (550-201150-17)	4/20/23	11:08 Arizona	Water	Water		X	X	X	X	2	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification

Unconfirmed Return To Client Disposal By Lab Archive For Months

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by: *Em-0474-23* Date/Time: *14:10* Company: *ETSW* Received by: *Fedge* Date/Time: Company: *ETSW*

Relinquished by: *Em-0474-23* Date/Time: *14:10* Company: *ETSW* Received by: *Fedge* Date/Time: Company: *ETSW*

Relinquished by: Date/Time: Company: Received by: *Fedge* Date/Time: Company: *ETSW*

Custody Seals Intact: Yes No Custody Seal No.: Cooler Temperature(s) °C and Other Remarks:

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier/Tracking No(s):	COC No:				
Client Contact:		Roberts, Danielle C	Roberts, Danielle C		550-36668.2				
Shipping/Receiving		Phone:	E-Mail:	State of Origin:	Page:				
Company:		TestAmerica Laboratories, Inc.	Danielle.Roberts@et.eurofins.com	Arizona	Page 2 of 3				
Address:		4955 Yarrow Street,	Job #:						
City:		Arvada	550-201150-1						
State, Zip:		CO, 80002	Preservation Codes:						
Phone:		303-736-0100(Tel) 303-431-7171(Fax)	A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AshNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2SO3 G - Anchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify) Other:						
Project Name:		CCR Groundwater Monitoring	Analysis Requested						
Site:		Arizona Public Service	Total Number of Containers						
Due Date Requested:		5/4/2023	Perform MS/MSD (Yes or No)						
TAT Requested (days):			Field Filtered Sample (Yes or No)						
PO #:			200.7/200.7_P_TOT Lithium-Total						
WO #:			353.2_Pres						
Project #:		55009651	Special Instructions/Note:						
SSOW#:									
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AS=Al)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2_Pres	Total Number of Containers
CH-CCR-W301-0423 (550-201150-19)	4/18/23	17:01	Arizona	Water	Water	X	X	X	2
CH-CCR-W303-0423 (550-201150-21)	4/18/23	18:09	Arizona	Water	Water	X	X	X	2
CH-CCR-W306-0423 (550-201150-23)	4/19/23	11:25	Arizona	Water	Water	X	X	X	2
CH-CCR-W308-0423 (550-201150-25)	4/20/23	17:18	Arizona	Water	Water	X	X	X	2
CH-CCR-W309-0423 (550-201150-27)	4/20/23	14:46	Arizona	Water	Water	X	X	X	2
CH-CCR-W314-0423 (550-201150-29)	4/20/23	12:24	Arizona	Water	Water	X	X	X	2
CH-CCR-M50A-0423 (550-201150-31)	4/17/23	15:20	Arizona	Water	Water	X	X	X	2
CH-CCR-M51A-0423 (550-201150-33)	4/17/23	14:14	Arizona	Water	Water	X	X	X	2
CH-CCR-M64A-0423 (550-201150-35)	4/17/23	12:15	Arizona	Water	Water	X	X	X	2

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____

Relinquished by: *Michelle Pappas* Date/Time: *4/28/23 14:10* Company: *ETSW*

Relinquished by: _____ Date/Time: _____ Company: _____

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For _____ Months

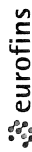
Special Instructions/QC Requirements:



Client Information (Sub Contract Lab)		Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-36668.3									
Client Contact: Shipping/Receiving		E-Mail: Danielle.Roberts@et.eurofins.com	State of Origin: Arizona	Page: Page 3 of 3									
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Arizona; State Program - Arizona											
Address: 4955 Yarrow Street, Arvada CO, 80002		Job #: 550-201150-1											
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)											
Project Name: CCR Groundwater Monitoring		Total Number of Containers: <input checked="" type="checkbox"/> 353_2_Pres											
Site: Arizona Public Service		Special Instructions/Note:											
Due Date Requested: 5/4/2023		Analysis Requested											
TAT Requested (days):		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>											
PO #:		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>											
WO #:		200_7/200_7_P_TOT Lithium-Total											
Project #: 55009651		353_2_Pres											
SSOW #:		Total Number of Containers: <input checked="" type="checkbox"/>											
Sample Date		Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=titus, A=AN)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200_7/200_7_P_TOT Lithium-Total	353_2_Pres	Analysis Requested	Carrier Tracking No(s)	Lab PM	Client Information (Sub Contract Lab)
CH-CCR-W123R-0423 (550-201150-37)	4/17/23	17:47 Arizona	Water	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X			Roberts, Danielle C	Client Information (Sub Contract Lab)
CH-CCR-W125-0423 (550-201150-39)	4/17/23	16:44 Arizona	Water	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X				Client Information (Sub Contract Lab)
CH-CCR-BudHunt-0423 (550-201150-40)	4/19/23	09:18 Arizona	Water	Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	X	X				Client Information (Sub Contract Lab)
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to compliance to Eurofins Environment Testing Southwest, LLC.</p>													
<p>Possible Hazard Identification</p> <p>Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months</p> <p>Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2</p>													
<p>Empty Kit Relinquished by: _____ Date: _____</p> <p>Relinquished by: <i>Eme 04-24-23</i> Date/Time: <i>14:10</i> Received by: <i>Feleso</i> Date/Time: _____ Company: _____</p> <p>Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____</p> <p>Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____ Company: _____</p> <p>Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.: _____ Cooler Temperature(s) °C and Other Remarks: _____</p>													



Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Roberts, Danielle C	Carrier Tracking No(s): 550-36668.2
Client Contact: Shipping/Receiving		E-Mail: Danielle.Roberts@et.eurofinsus.com	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		State of Origin: Arizona	Job #: 550-201150-1
Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:		Accreditations Required (See note): State - Arizona; State Program - Arizona	Preservation Codes: M - Hexane N - None O - AshNaO2 P - Na2OAS Q - NaZSO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - NCA W - pH 4-5 Y - Trizma Z - other (specify) Other:
Due Date Requested: 5/4/2023	TAT Requested (days):	Analysis Requested	
PO #:	WO #:	Total Number of containers	
Project #: 55009651	SSOW#:	353.2_Pres	
Site: Arizona Public Service		200.7/200.7_P_TOT Lithium-Total	
		Field Filled Sample (Yes or No)	
		Perform MS/MSD (Yes or No)	
		Matrix	
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		Sample Time	

Client Information (Sub Contract Lab)		Lab PM: Roberts, Danielle C	Carrier Tracking No(s):	COC No: 550-36668.3
Client Contact: Test/America Laboratories, Inc.		E-Mail: Danielle.Roberts@et.eurofins.com	State of Origin: Arizona	Page: Page 3 of 3
Shipping/Receiving		Accreditations Required (See note): State - Arizona; State Program - Arizona	Job #:	550-201150-1
Address: 4955 Yarrow Street, Arivada, CO, 80002		Analysis Requested M - Hexane N - None O - AsNaO2 P - Na2OAS Q - Na2SO3 R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	Preservation Codes:	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)			A - HCL	
PO #:			B - NaOH	
WO #:			C - Zn Acetate	
Project #: 55009651		D - Nitric Acid		Total Number of Containers AZ Sample: 2 AZ Sample: 1 AZ Sample: 2
SSOW#:		E - NaHSO4		
Site: Arizona Public Service		F - MeOH		
Due Date Requested: 5/4/2023		G - Amchlor		Special Instructions/Note: Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 200.7/200.7_P_TOT Lithium-Total Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 353.2_Pres TAT Requested (days):
Sample Date		H - Ascorbic Acid		
Sample Time		I - Ice		
Sample Time		J - DI Water		
Sample Time		K - EDTA		
Sample Time		L - EDA		
Sample Time		Other:		
Sample Time				
Sample Time				
Sample Time				
Sample ID (Lab ID)		M - Hexane		
CH-CCR-W123R-0423 (550-201150-37)		N - None		
CH-CCR-W125-0423 (550-201150-39)		O - AsNaO2		
CH-CCR-BudHunt-0423 (550-201150-40)		P - Na2OAS		
		Q - Na2SO3		
		R - NaHSO4		
		S - H2SO4		
		T - TSP Dodecahydrate		
		U - Acetone		
		V - MCAA		
		W - pH 4-5		
		Y - Trizma		
		Z - other (specify)		
Possible Hazard Identification Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months				
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2				
Empty Kit Relinquished by: _____ Date: _____				
Relinquished by: <i>Time 04-24-23 14:10</i> Received by: <i>[Signature]</i> Date/Time: _____				
Relinquished by: _____ Received by: _____ Date/Time: _____				
Relinquished by: _____ Received by: _____ Date/Time: _____				
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks:				



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-201150-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 201150

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-201150-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 201150

List Number: 2

Creator: Cannon, Charles D

List Source: Eurofins Denver

List Creation: 04/25/23 05:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Insufficient volume received for requested analysis.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-201150-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 201150
List Number: 3
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 04/26/23 06:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 6/13/2023 4:14:50 PM Revision 1

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAP)

JOB NUMBER

550-201346-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Revision 1

Authorized for release by
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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
L3	The associated blank spike recovery was above method acceptance limits.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
D1	Sample required dilution due to matrix.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation **These commonly used abbreviations may or may not be present in this report.**

PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-201346-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-201346-1

Comments

No additional comments.

Receipt

The samples were received on 4/27/2023 8:57 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 3.6° C, 4.0° C, 4.2° C, 4.4° C and 4.8° C.

Receipt Exceptions

Method 353.2: Samples 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, and 33 were received without the proper preservation, post preserved sample volume in sample receiving.

CH-CCR-BAP-0423 (550-201346-13), CH-CCR-BAPTD-0423 (550-201346-15), CH-CCR-Petroglyph-0423 (550-201346-17), CH-CCR-TannerWash-0423 (550-201346-19), CH-CCR-TWX3-0423 (550-201346-21), CH-CCR-TWX5-0423 (550-201346-23), CH-CCR-TWX6-0423 (550-201346-25), CH-CCR-TWX7-0423 (550-201346-27), CH-CCR-TWX9-0423 (550-201346-29), CH-CCR-TWX10-0423 (550-201346-31) and CH-CCR-EB01-0423 (550-201346-33).

HPLC/IC

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-W302-0423 (550-201346-1), CH-CCR-W304-0423 (550-201346-3), CH-CCR-W307R-0423 (550-201346-5), CH-CCR-FD03-0423 (550-201346-7), CH-CCR-MW77A-0423 (550-201346-9), CH-CCR-MW78A-0423 (550-201346-11), CH-CCR-BAP-0423 (550-201346-13), CH-CCR-BAPTD-0423 (550-201346-15) and CH-CCR-Petroglyph-0423 (550-201346-17). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-TWX7-0423 (550-201346-27) and CH-CCR-TWX9-0423 (550-201346-29). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-TannerWash-0423 (550-201346-19), CH-CCR-TWX6-0423 (550-201346-25), CH-CCR-TWX10-0423 (550-201346-31), CH-CCR-FAP-0423 (550-201346-35) and CH-CCR-GeronimoC-0423 (550-201346-37). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

Method 300.0: The following samples were diluted due to matrix interferences as well as high amounts of metals constituents: CH-CCR-TWX3-0423 (550-201346-21) and CH-CCR-TWX5-0423 (550-201346-23). A metals test was performed on the undiluted samples which produced strong positive results. Therefore to reduce these interferences, dilutions were prepared prior to the instrument analysis. The samples were re-tested at increasing dilutions and run at the lowest dilutions which presented with minimized interference. This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and the results have been qualified with D flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 200.7 Rev 4.4: The instrument blank for analytical batch 280-611360 contained Li greater than one-half the reporting limit (RL), and

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-201346-1 (Continued)

Laboratory: Eurofins Phoenix (Continued)

were not re-analyzed because they were >10x the blank. The data have been qualified and reported.

Method 200.7 Rev 4.4: The laboratory control sample (LCS) associated with preparation batch 550-299405 and analytical batch 550-300171 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance. CH-CCR-HuntB-0423 (550-201346-42)

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-300233 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. CH-CCR-TWX3-0423 (550-201346-21), CH-CCR-TWX5-0423 (550-201346-23), CH-CCR-TWX6-0423 (550-201346-25), CH-CCR-TWX7-0423 (550-201346-27), CH-CCR-GeronimoC-0423 (550-201346-37) and CH-CCR-GeronimoD-0423 (550-201346-39)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method 353.2: Sample had to be diluted due to the impact it had on the cadmium coil.

CH-CCR-FAP-0423 (550-201346-35)

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-299426 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-299527 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-299691 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

Method SM 2540C: Total dissolved solids were detected above the reporting limit (RL) in the method blank associated with analytical batch 550-299557 as well as in the following samples: CH-CCR-BAP-0423 (550-201346-13), CH-CCR-BAPTD-0423 (550-201346-15), CH-CCR-Petroglyph-0423 (550-201346-17), (MB 550-299557/1), (550-201452-A-1) and (550-201452-A-1 DU).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Narrative

Job Narrative 550-201346-2

Comments

No additional comments.

Receipt

The samples were received on 4/27/2023 8:57 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 3.6° C, 4.0° C, 4.2° C, 4.4° C and 4.8° C.

Metals

Method 200.8: The following samples were diluted due to the nature of the sample matrix: CH-CCR-W307R-0423 (550-201346-6), CH-CCR-MW78A-0423 (550-201346-12), CH-CCR-BAP-0423 (550-201346-14) and CH-CCR-BAPTD-0423 (550-201346-16). Elevated reporting limits (RLs) are provided.

Method 200.8: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 570-334375 and analytical batch 570-334514 were outside control limits for Antimony. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-201346-1 (Continued)

Laboratory: Eurofins Phoenix (Continued)

Method 200.8: The following samples were diluted due to the nature of the sample matrix: CH-CCR-W302-0423 (550-201346-1), CH-CCR-W302-0423 (550-201346-2), CH-CCR-W304-0423 (550-201346-3), CH-CCR-W304-0423 (550-201346-4), CH-CCR-W307R-0423 (550-201346-5), CH-CCR-FD03-0423 (550-201346-7), CH-CCR-FD03-0423 (550-201346-8), CH-CCR-MW77A-0423 (550-201346-9), CH-CCR-MW77A-0423 (550-201346-10), CH-CCR-MW78A-0423 (550-201346-11), CH-CCR-BAP-0423 (550-201346-13), CH-CCR-BAPTD-0423 (550-201346-15), CH-CCR-Petroglyph-0423 (550-201346-17), CH-CCR-Petroglyph-0423 (550-201346-18), CH-CCR-TannerWash-0423 (550-201346-19), CH-CCR-TannerWash-0423 (550-201346-20), CH-CCR-TWX3-0423 (550-201346-21), CH-CCR-TWX3-0423 (550-201346-22), CH-CCR-TWX5-0423 (550-201346-23), CH-CCR-TWX5-0423 (550-201346-24), CH-CCR-TWX6-0423 (550-201346-25), CH-CCR-TWX6-0423 (550-201346-26), CH-CCR-TWX7-0423 (550-201346-27), CH-CCR-TWX7-0423 (550-201346-28), CH-CCR-TWX9-0423 (550-201346-29), CH-CCR-TWX9-0423 (550-201346-30), CH-CCR-TWX10-0423 (550-201346-31), CH-CCR-TWX10-0423 (550-201346-32), CH-CCR-FAP-0423 (550-201346-35), CH-CCR-GeronimoC-0423 (550-201346-37), CH-CCR-GeronimoC-0423 (550-201346-38), CH-CCR-GeronimoD-0423 (550-201346-39), CH-CCR-GeronimoD-0423 (550-201346-40) and CH-CCR-HuntB-0423 (550-201346-41). Elevated reporting limits (RLs) are provided.

Method 200.8: The following sample was diluted due to the nature of the sample matrix: CH-CCR-HuntB-0423 (550-201346-42). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-201346-1	CH-CCR-W302-0423	Water	04/24/23 14:54	04/27/23 08:57
550-201346-2	CH-CCR-W302-0423	Water	04/24/23 14:54	04/27/23 08:57
550-201346-3	CH-CCR-W304-0423	Water	04/24/23 13:28	04/27/23 08:57
550-201346-4	CH-CCR-W304-0423	Water	04/24/23 13:28	04/27/23 08:57
550-201346-5	CH-CCR-W307R-0423	Water	04/24/23 12:16	04/27/23 08:57
550-201346-6	CH-CCR-W307R-0423	Water	04/24/23 12:16	04/27/23 08:57
550-201346-7	CH-CCR-FD03-0423	Water	04/24/23 16:20	04/27/23 08:57
550-201346-8	CH-CCR-FD03-0423	Water	04/24/23 16:20	04/27/23 08:57
550-201346-9	CH-CCR-MW77A-0423	Water	04/25/23 09:53	04/27/23 08:57
550-201346-10	CH-CCR-MW77A-0423	Water	04/25/23 09:53	04/27/23 08:57
550-201346-11	CH-CCR-MW78A-0423	Water	04/24/23 17:16	04/27/23 08:57
550-201346-12	CH-CCR-MW78A-0423	Water	04/24/23 17:16	04/27/23 08:57
550-201346-13	CH-CCR-BAP-0423	Water	04/26/23 11:38	04/27/23 08:57
550-201346-14	CH-CCR-BAP-0423	Water	04/26/23 11:38	04/27/23 08:57
550-201346-15	CH-CCR-BAPTD-0423	Water	04/26/23 08:27	04/27/23 08:57
550-201346-16	CH-CCR-BAPTD-0423	Water	04/26/23 08:27	04/27/23 08:57
550-201346-17	CH-CCR-Petroglyph-0423	Water	04/26/23 09:00	04/27/23 08:57
550-201346-18	CH-CCR-Petroglyph-0423	Water	04/26/23 09:00	04/27/23 08:57
550-201346-19	CH-CCR-TannerWash-0423	Water	04/26/23 09:16	04/27/23 08:57
550-201346-20	CH-CCR-TannerWash-0423	Water	04/26/23 09:16	04/27/23 08:57
550-201346-21	CH-CCR-TWX3-0423	Water	04/26/23 09:41	04/27/23 08:57
550-201346-22	CH-CCR-TWX3-0423	Water	04/26/23 09:41	04/27/23 08:57
550-201346-23	CH-CCR-TWX5-0423	Water	04/26/23 10:00	04/27/23 08:57
550-201346-24	CH-CCR-TWX5-0423	Water	04/26/23 10:00	04/27/23 08:57
550-201346-25	CH-CCR-TWX6-0423	Water	04/26/23 10:11	04/27/23 08:57
550-201346-26	CH-CCR-TWX6-0423	Water	04/26/23 10:11	04/27/23 08:57
550-201346-27	CH-CCR-TWX7-0423	Water	04/26/23 10:29	04/27/23 08:57
550-201346-28	CH-CCR-TWX7-0423	Water	04/26/23 10:29	04/27/23 08:57
550-201346-29	CH-CCR-TWX9-0423	Water	04/26/23 10:54	04/27/23 08:57
550-201346-30	CH-CCR-TWX9-0423	Water	04/26/23 10:54	04/27/23 08:57
550-201346-31	CH-CCR-TWX10-0423	Water	04/26/23 11:05	04/27/23 08:57
550-201346-32	CH-CCR-TWX10-0423	Water	04/26/23 11:05	04/27/23 08:57
550-201346-33	CH-CCR-EB01-0423	Water	04/26/23 12:46	04/27/23 08:57
550-201346-34	CH-CCR-EB01-0423	Water	04/26/23 12:46	04/27/23 08:57
550-201346-35	CH-CCR-FAP-0423	Water	04/25/23 13:35	04/27/23 08:57
550-201346-36	CH-CCR-FAP-0423	Water	04/25/23 13:35	04/27/23 08:57
550-201346-37	CH-CCR-GeronimoC-0423	Water	04/25/23 12:43	04/27/23 08:57
550-201346-38	CH-CCR-GeronimoC-0423	Water	04/25/23 12:43	04/27/23 08:57
550-201346-39	CH-CCR-GeronimoD-0423	Water	04/25/23 13:04	04/27/23 08:57
550-201346-40	CH-CCR-GeronimoD-0423	Water	04/25/23 13:04	04/27/23 08:57
550-201346-41	CH-CCR-HuntB-0423	Water	04/25/23 11:13	04/27/23 08:57
550-201346-42	CH-CCR-HuntB-0423	Water	04/25/23 11:13	04/27/23 08:57

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.40		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.58		0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	770		10	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	160		10	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	5.3		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.014		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.013		0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.0069		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.0031	E4	0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.0069		0.0020	0.00039 mg/L	10		200.8	Dissolved
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8300		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.016		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	0.87	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.87	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.87	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.38		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.44		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.30		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.0		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	M3	2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.0081		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0059	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.0095		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.0059		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.0094		0.0020	0.00039 mg/L	10		200.8	Dissolved
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-0423 (Continued)

Lab Sample ID: 550-201346-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.25		0.10	mg/L	1		200.7	Dissolved
Manganese	3.0		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	0.72	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.71	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.72	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2800	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.8		0.25	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	710		10	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	150		10	mg/L	5		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.050	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	4.5		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1900		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00089	E4	0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.011		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0021	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.063		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.023		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.059		0.0020	0.00039 mg/L	10		200.8	Dissolved
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.5		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2900	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.3		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00085	E4	0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.010		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0023	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.064		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.024		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.0017	E4	0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.064		0.0020	0.00039 mg/L	10		200.8	Dissolved
Ammonia	0.055		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8200		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.5		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	4200	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.77		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.72		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.5		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.74		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.00089	E4	0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.0084		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.015		0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.0048		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.0069		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.0012	E4	0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.0047		0.0020	0.00039 mg/L	10		200.8	Dissolved
Dissolved Organic Carbon	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2400	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.27		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	7.9		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.011		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Cobalt	0.0016	E4	0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.0066		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.0015	E4	0.0020	0.00039 mg/L	10		200.8	Dissolved
Ammonia	0.35		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.17		0.10	mg/L	1		200.7	Dissolved
Manganese	5.7		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	0.58	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.57	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.58	T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2800	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.19		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.66		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.056		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1300		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.016		0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.17		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0012	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.00062	E4	0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.026		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.015		0.0020	0.00083 mg/L	10		200.8	Dissolved
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6500	B1	100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.2		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.028		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	2.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3200	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.65		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.0094		0.0050	0.0019 mg/L	10		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-0423 (Continued)

Lab Sample ID: 550-201346-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0063		0.0020	0.00039	mg/L	10		200.8	Total Recoverable
Lead	0.0027		0.0020	0.0012	mg/L	10		200.8	Total Recoverable
Molybdenum	0.016		0.0050	0.0016	mg/L	10		200.8	Total Recoverable
Cobalt	0.0064		0.0020	0.00039	mg/L	10		200.8	Dissolved
Ammonia	0.11		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8300	B1	100		mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.3		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.19		0.10	mg/L	1		200.7	Dissolved
Manganese	2.6		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0023		0.0020	0.00083	mg/L	10	200.8	Total Recoverable
Barium	0.0059		0.0050	0.0019	mg/L	10	200.8	Total Recoverable
Cobalt	0.014		0.0020	0.00039	mg/L	10	200.8	Total Recoverable
Molybdenum	0.020		0.0050	0.0016	mg/L	10	200.8	Total Recoverable
Arsenic	0.0017	E4	0.0020	0.00083	mg/L	10	200.8	Dissolved
Cobalt	0.013		0.0020	0.00039	mg/L	10	200.8	Dissolved
Ammonia	0.079	M2	0.050		mg/L	1	350.1	Total/NA
Nitrate Nitrite as N	0.33		0.10		mg/L	1	353.2	Total/NA
Alkalinity as CaCO3	82		6.0		mg/L	1	SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	82		6.0		mg/L	1	SM 2320B	Total/NA
Total Dissolved Solids	7400	B1	100		mg/L	1	SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-0423 (Continued)

Lab Sample ID: 550-201346-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.88		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.88		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.88		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.0		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	0.95	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.95	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.95	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3200	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.5		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0039		0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.013		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0056	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.014		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.019		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.013		0.0020	0.00039 mg/L	10		200.8	Dissolved
Ammonia	0.056		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.24		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	86		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	86		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.0		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.12		0.10	mg/L	1		200.7	Dissolved
Manganese	1.3		0.010	mg/L	1		200.7	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TannerWash-0423 (Continued)

Lab Sample ID: 550-201346-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	0.98	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.98	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.98	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3100	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.84		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	13		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	E4	0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.0094		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.012		0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.014		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Lead	0.0017	E4	0.0020	0.0012 mg/L	10		200.8	Total Recoverable
Molybdenum	0.037		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.0012	E4	0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.014		0.0020	0.00039 mg/L	10		200.8	Dissolved
Ammonia	0.29		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	82		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	82		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.97		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.97		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.97		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.7		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	0.97	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.95	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.97	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3100	D2	40	mg/L	20		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-0423 (Continued)

Lab Sample ID: 550-201346-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.22		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0013	E4	0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.011		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0057	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.014		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Lead	0.0042		0.0020	0.0012 mg/L	10		200.8	Total Recoverable
Molybdenum	0.034		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.00096	E4	0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.013		0.0020	0.00039 mg/L	10		200.8	Dissolved
Ammonia	0.32		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	85		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	85		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.0		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.9		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-25

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3100	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.23		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.4		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0020		0.0020	0.00083 mg/L	10		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX6-0423 (Continued)

Lab Sample ID: 550-201346-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0090		0.0050	0.0019	mg/L	10		200.8	Total Recoverable
Cadmium	0.0017	E4	0.0020	0.00044	mg/L	10		200.8	Total Recoverable
Cobalt	0.018		0.0020	0.00039	mg/L	10		200.8	Total Recoverable
Lead	0.0020		0.0020	0.0012	mg/L	10		200.8	Total Recoverable
Molybdenum	0.050		0.0050	0.0016	mg/L	10		200.8	Total Recoverable
Arsenic	0.0021		0.0020	0.00083	mg/L	10		200.8	Dissolved
Cobalt	0.017		0.0020	0.00039	mg/L	10		200.8	Dissolved
Ammonia	0.085		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	75		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400		100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.97	M2	0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.97	M2	0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.97	M2	0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-26

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.2		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-27

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	mg/L	200		300.0	Total/NA
Sulfate	3100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0020		0.0020	0.00083	mg/L	10	200.8	Total Recoverable
Barium	0.0076		0.0050	0.0019	mg/L	10	200.8	Total Recoverable
Cadmium	0.00055	E4	0.0020	0.00044	mg/L	10	200.8	Total Recoverable
Chromium	0.045		0.010	0.0012	mg/L	10	200.8	Total Recoverable
Cobalt	0.017		0.0020	0.00039	mg/L	10	200.8	Total Recoverable
Lead	0.0029		0.0020	0.0012	mg/L	10	200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-0423 (Continued)

Lab Sample ID: 550-201346-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.041		0.0050	0.0016	mg/L	10		200.8	Total Recoverable
Arsenic	0.0012	E4	0.0020	0.00083	mg/L	10		200.8	Dissolved
Cobalt	0.016		0.0020	0.00039	mg/L	10		200.8	Dissolved
Nitrate Nitrite as N	0.13		0.10		mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	73		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	73		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7800		100		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.4	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.97		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.95		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.97		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-28

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.15		0.10	mg/L	1		200.7	Dissolved
Manganese	1.1		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	100	mg/L	50		300.0	Total/NA
Sulfate	3100	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.29		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.0		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0025		0.0020	0.00083	mg/L	10	200.8	Total Recoverable
Barium	0.0038	E4	0.0050	0.0019	mg/L	10	200.8	Total Recoverable
Cadmium	0.0010	E4	0.0020	0.00044	mg/L	10	200.8	Total Recoverable
Chromium	0.55		0.010	0.0012	mg/L	10	200.8	Total Recoverable
Cobalt	0.012		0.0020	0.00039	mg/L	10	200.8	Total Recoverable
Lead	0.0016	E4	0.0020	0.0012	mg/L	10	200.8	Total Recoverable
Molybdenum	0.11		0.0050	0.0016	mg/L	10	200.8	Total Recoverable
Arsenic	0.0012	E4	0.0020	0.00083	mg/L	10	200.8	Dissolved
Cobalt	0.0063		0.0020	0.00039	mg/L	10	200.8	Dissolved
Ammonia	0.092		0.050		mg/L	1	350.1	Total/NA
Alkalinity as CaCO3	130		6.0		mg/L	1	SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-0423 (Continued)

Lab Sample ID: 550-201346-29

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8300		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-30

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.25		0.10	mg/L	1		200.7	Dissolved
Manganese	4.1		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-31

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	40	mg/L	20		300.0	Total/NA
Sulfate	3000	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.50		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	180		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.036		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.011		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.014		0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.013		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.016		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Cobalt	0.012		0.0020	0.00039 mg/L	10		200.8	Dissolved
Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9600		100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.7		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.017		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-0423 (Continued)

Lab Sample ID: 550-201346-32

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Duplicate	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.00068		0.00050	0.00019	mg/L	1		200.8	Total Recoverable
Chromium	0.00016	E4	0.0010	0.00012	mg/L	1		200.8	Total Recoverable
pH	6.1	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-34

No Detections.

Client Sample ID: CH-CCR-FAP-0423

Lab Sample ID: 550-201346-35

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	50000	D2	2000	mg/L	1000		300.0	Total/NA
Sulfate	44000	D2	2000	mg/L	1000		300.0	Total/NA
Lithium	10		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	500		2.0	mg/L	40		200.7 Rev 4.4	Total/NA
Calcium	680		10	mg/L	5		200.7 Rev 4.4	Total/NA
Iron	1.7		0.50	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	9500		80	mg/L	40		200.7 Rev 4.4	Total/NA
Manganese	28		0.050	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	680		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	26000		20	mg/L	40		200.7 Rev 4.4	Total/NA
Antimony	0.052	E4	0.10	0.051 mg/L	100		200.8	Total Recoverable
Arsenic	0.54		0.020	0.0083 mg/L	100		200.8	Total Recoverable
Barium	0.17		0.050	0.019 mg/L	100		200.8	Total Recoverable
Cobalt	0.023		0.020	0.0039 mg/L	100		200.8	Total Recoverable
Molybdenum	0.83		0.050	0.016 mg/L	100		200.8	Total Recoverable
Selenium	0.13		0.10	0.071 mg/L	100		200.8	Total Recoverable
Arsenic	0.069		0.020	0.0083 mg/L	100		200.8	Dissolved
Cobalt	0.021		0.020	0.0039 mg/L	100		200.8	Dissolved
Ammonia	0.077		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	260		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	150000		1000	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	64	D1	5.0	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	64	D1	5.0	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Quad	64	D1	5.0	mg/L	10		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FAP-0423

Lab Sample ID: 550-201346-36

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.2		0.50	mg/L	5		200.7	Dissolved
Manganese	29		0.050	mg/L	5		200.7	Dissolved
Dissolved Organic Carbon	62	D1 T5	5.0	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	62	D1 T5	5.0	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	62	D1 T5	5.0	mg/L	10		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-37

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6600	D2	200	mg/L	100		300.0	Total/NA
Sulfate	4800	D2	200	mg/L	100		300.0	Total/NA
Lithium	0.69		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	57		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.12		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	50		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4000		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.019		0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.0050		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0032	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.0029		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.035		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.017		0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.0025		0.0020	0.00039 mg/L	10		200.8	Dissolved
Nitrate Nitrite as N	0.77		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	66		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	66		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000		200	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.2		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-38

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.16		0.10	mg/L	1		200.7	Dissolved
Manganese	0.13		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	2.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.2	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.2	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-39

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6500	D2	400	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoD-0423 (Continued)

Lab Sample ID: 550-201346-39

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	8.2	D1	8.0	mg/L	20		300.0	Total/NA
Sulfate	4500	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.71		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	58		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	530		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	55		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3900		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0073		0.0020	0.00083 mg/L	10		200.8	Total Recoverable
Barium	0.0099		0.0050	0.0019 mg/L	10		200.8	Total Recoverable
Chromium	0.0033	E4	0.010	0.0012 mg/L	10		200.8	Total Recoverable
Cobalt	0.0027		0.0020	0.00039 mg/L	10		200.8	Total Recoverable
Molybdenum	0.028		0.0050	0.0016 mg/L	10		200.8	Total Recoverable
Arsenic	0.0068		0.0020	0.00083 mg/L	10		200.8	Dissolved
Cobalt	0.0026		0.0020	0.00039 mg/L	10		200.8	Dissolved
Nitrate Nitrite as N	0.18		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000		200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.5		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.5		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.5		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-40

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	2.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.7	T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.7	T5	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-41

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	4.2	D1	4.0	mg/L	10		300.0	Total/NA
Sulfate	3100	D2	400	mg/L	200		300.0	Total/NA
Lithium	0.47		0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	31		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Barium	0.0095		0.0050	0.0019 mg/L	10		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-HuntB-0423 (Continued)

Lab Sample ID: 550-201346-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0050		0.0020	0.00039	mg/L	10		200.8	Total Recoverable
Molybdenum	0.88		0.0050	0.0016	mg/L	10		200.8	Total Recoverable
Arsenic	0.0013	E4	0.0020	0.00083	mg/L	10		200.8	Dissolved
Cobalt	0.0053		0.0020	0.00039	mg/L	10		200.8	Dissolved
Ammonia	1.9		0.050		mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	71		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	71		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		200		mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.3	H5 T5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.1		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.1		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.1		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-42

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.90	L3	0.10	mg/L	1		200.7	Dissolved
Manganese	7.7		0.010	mg/L	1		200.7	Dissolved
Dissolved Organic Carbon	2.0	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0	M2 T5	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-1

Date Collected: 04/24/23 14:54

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200	D2	400	mg/L			05/15/23 17:56	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 17:37	10
Sulfate	2100	D2	400	mg/L			05/15/23 17:56	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.010	mg/L		05/01/23 09:59	06/07/23 13:22	10
Lithium	0.40		0.020	mg/L		05/02/23 08:08	05/03/23 07:07	1
Boron	0.58		0.25	mg/L		05/01/23 09:59	06/01/23 04:20	5
Calcium	770		10	mg/L		05/01/23 09:59	06/01/23 04:20	5
Iron	ND		0.50	mg/L		05/01/23 09:59	06/01/23 04:20	5
Magnesium	160		10	mg/L		05/01/23 09:59	06/01/23 04:20	5
Manganese	ND		0.050	mg/L		05/01/23 09:59	06/01/23 04:20	5
Potassium	5.3		2.5	mg/L		05/01/23 09:59	06/01/23 04:20	5
Sodium	2000		2.5	mg/L		05/01/23 09:59	06/01/23 04:20	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 09:56	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 09:56	10
Barium	0.014		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 09:56	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 09:56	10
Chromium	0.013		0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 09:56	10
Cobalt	0.0069		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 09:56	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 09:56	10
Molybdenum	0.0031	E4	0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 09:56	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 09:56	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 09:56	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 10:59	10
Cobalt	0.0069		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 10:59	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:10	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:59	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/04/23 12:29	1
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			05/01/23 16:07	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 16:07	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			05/01/23 16:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:07	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:07	1
Total Dissolved Solids (SM 2540C)	8300		100	mg/L			04/28/23 15:21	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-1

Date Collected: 04/24/23 14:54

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			05/03/23 14:51	1
Temperature (SM 4500 H+ B)	12.6	H5 T5	0.1	Degrees C			05/03/23 14:51	1

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-2

Date Collected: 04/24/23 14:54

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:07	1
Manganese	0.016		0.010	mg/L		05/01/23 09:53	05/16/23 05:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.87	M2 T5	0.50	mg/L			05/02/23 15:27	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.87	M2 T5	0.50	mg/L			05/02/23 15:27	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.87	M2 T5	0.50	mg/L			05/02/23 15:27	1

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-3

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	400	mg/L			05/15/23 18:32	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 18:14	10
Sulfate	2600	D2	400	mg/L			05/15/23 18:32	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:00	1
Lithium	0.38		0.020	mg/L		05/02/23 08:08	05/03/23 07:12	1
Boron	0.44		0.050	mg/L		05/01/23 09:59	05/12/23 19:00	1
Calcium	730	M3	2.0	mg/L		05/01/23 09:59	05/12/23 19:00	1
Iron	0.30		0.10	mg/L		05/01/23 09:59	05/12/23 19:00	1
Magnesium	120		2.0	mg/L		05/01/23 09:59	05/12/23 19:00	1
Manganese	3.0		0.010	mg/L		05/01/23 09:59	06/01/23 04:17	1
Potassium	4.4		0.50	mg/L		05/01/23 09:59	05/12/23 19:00	1
Sodium	1800	M3	2.5	mg/L		05/01/23 09:59	06/07/23 13:19	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 09:58	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 09:58	10
Barium	0.0081		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 09:58	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 09:58	10
Chromium	0.0059	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 09:58	10
Cobalt	0.0095		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 09:58	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 09:58	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-3

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0059		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 09:58	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 09:58	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 09:58	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:01	10
Cobalt	0.0094		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:01	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:12	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:57	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:22	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:15	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 16:15	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:15	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:15	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:15	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			04/28/23 15:21	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			05/03/23 14:53	1
Temperature (SM 4500 H+ B)	12.1	H5 T5	0.1	Degrees C			05/03/23 14:53	1

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-4

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.25		0.10	mg/L		05/01/23 09:53	05/16/23 05:04	1
Manganese	3.0		0.010	mg/L		05/01/23 09:53	05/16/23 05:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.72	T5	0.50	mg/L			05/02/23 16:10	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.71	T5	0.50	mg/L			05/02/23 16:10	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.72	T5	0.50	mg/L			05/02/23 16:10	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-5

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	mg/L			05/15/23 19:09	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 18:51	10
Sulfate	2800	D2	400	mg/L			05/15/23 19:09	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.010	mg/L		05/01/23 09:59	06/07/23 13:25	10
Lithium	0.26		0.020	mg/L		05/02/23 08:08	05/03/23 07:16	1
Boron	2.8		0.25	mg/L		05/01/23 09:59	06/01/23 04:23	5
Calcium	710		10	mg/L		05/01/23 09:59	06/01/23 04:23	5
Iron	ND		0.50	mg/L		05/01/23 09:59	06/01/23 04:23	5
Magnesium	150		10	mg/L		05/01/23 09:59	06/01/23 04:23	5
Manganese	2.5		0.050	mg/L		05/01/23 09:59	06/01/23 04:23	5
Potassium	4.5		2.5	mg/L		05/01/23 09:59	06/01/23 04:23	5
Sodium	1900		2.5	mg/L		05/01/23 09:59	06/01/23 04:23	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:01	10
Arsenic	0.00089	E4	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:01	10
Barium	0.011		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:01	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:01	10
Chromium	0.0021	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:01	10
Cobalt	0.063		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:01	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:01	10
Molybdenum	0.023		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:01	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:01	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:01	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 10:54	10
Cobalt	0.059		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 10:54	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:56	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:28	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:35	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 16:35	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:35	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:35	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:35	1
Total Dissolved Solids (SM 2540C)	8000		100	mg/L			04/28/23 15:21	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-5

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			05/03/23 14:55	1
Temperature (SM 4500 H+ B)	11.7	H5 T5	0.1	Degrees C			05/03/23 14:55	1

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-6

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:10	1
Manganese	2.5		0.010	mg/L		05/01/23 09:53	05/16/23 05:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:26	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:26	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:26	1

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-7

Date Collected: 04/24/23 16:20

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400	mg/L			05/15/23 19:46	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 19:28	10
Sulfate	2900	D2	400	mg/L			05/15/23 19:46	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:08	1
Lithium	0.26		0.020	mg/L		05/02/23 08:08	05/03/23 07:21	1
Boron	2.9		0.050	mg/L		05/01/23 09:59	05/12/23 19:08	1
Calcium	700		2.0	mg/L		05/01/23 09:59	05/12/23 19:08	1
Iron	ND		0.10	mg/L		05/01/23 09:59	05/12/23 19:08	1
Magnesium	160		2.0	mg/L		05/01/23 09:59	05/12/23 19:08	1
Manganese	2.5		0.010	mg/L		05/01/23 09:59	06/01/23 04:26	1
Potassium	3.3		0.50	mg/L		05/01/23 09:59	05/12/23 19:08	1
Sodium	1700		2.5	mg/L		05/01/23 09:59	06/07/23 13:28	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:03	10
Arsenic	0.00085	E4	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:03	10
Barium	0.010		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:03	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:03	10
Chromium	0.0023	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:03	10
Cobalt	0.064		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:03	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:03	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-7

Date Collected: 04/24/23 16:20

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.024		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:03	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:03	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:03	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 10:53	10
Cobalt	0.064		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 10:53	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:16	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.055		0.050	mg/L			05/03/23 13:54	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:42	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:50	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 16:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			05/01/23 16:50	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:50	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:50	1
Total Dissolved Solids (SM 2540C)	8200		100	mg/L			04/28/23 15:21	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			05/03/23 14:56	1
Temperature (SM 4500 H+ B)	12.0	H5 T5	0.1	Degrees C			05/03/23 14:56	1

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-8

Date Collected: 04/24/23 16:20

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:13	1
Manganese	2.5		0.010	mg/L		05/01/23 09:53	05/16/23 05:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:38	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:38	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:38	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-9

Date Collected: 04/25/23 09:53

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	400	mg/L			05/15/23 21:18	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 21:00	10
Sulfate	4200	D2	400	mg/L			05/15/23 21:18	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:11	1
Lithium	0.52		0.020	mg/L		05/02/23 08:08	05/03/23 07:26	1
Boron	0.77		0.050	mg/L		05/01/23 09:59	05/12/23 19:11	1
Calcium	570		2.0	mg/L		05/01/23 09:59	05/12/23 19:11	1
Iron	ND		0.10	mg/L		05/01/23 09:59	05/12/23 19:11	1
Magnesium	110		2.0	mg/L		05/01/23 09:59	05/12/23 19:11	1
Manganese	0.72		0.010	mg/L		05/01/23 09:59	06/01/23 04:29	1
Potassium	2.5		0.50	mg/L		05/01/23 09:59	05/12/23 19:11	1
Sodium	2900		2.5	mg/L		05/01/23 09:59	06/07/23 13:31	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:18	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:44	1
Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			05/01/23 16:58	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 16:58	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			05/01/23 16:58	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:58	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 16:58	1
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			05/02/23 18:03	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			05/03/23 14:58	1
Temperature (SM 4500 H+ B)	12.1	H5 T5	0.1	Degrees C			05/03/23 14:58	1

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-10

Date Collected: 04/25/23 09:53

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:16	1
Manganese	0.74		0.010	mg/L		05/01/23 09:53	05/16/23 05:16	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:05	10
Arsenic	0.00089	E4	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:05	10
Barium	0.0084		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:05	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:05	10
Chromium	0.015		0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:05	10

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-10

Date Collected: 04/25/23 09:53

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0048		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:05	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:05	10
Molybdenum	0.0069		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:05	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:05	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:05	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:19	10
Cobalt	0.0047		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:19	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:55	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:55	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.1	T5	0.50	mg/L			05/02/23 16:55	1

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-11

Date Collected: 04/24/23 17:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800	D2	400	mg/L			05/15/23 21:55	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 21:36	10
Sulfate	2400	D2	400	mg/L			05/15/23 21:55	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:14	1
Lithium	0.27		0.020	mg/L		05/02/23 08:08	05/05/23 03:35	1
Boron	0.41		0.050	mg/L		05/01/23 09:59	05/12/23 19:14	1
Calcium	760		2.0	mg/L		05/01/23 09:59	05/12/23 19:14	1
Iron	0.17		0.10	mg/L		05/01/23 09:59	05/12/23 19:14	1
Magnesium	140		2.0	mg/L		05/01/23 09:59	05/12/23 19:14	1
Manganese	5.7		0.010	mg/L		05/01/23 09:59	06/01/23 04:32	1
Potassium	7.9		0.50	mg/L		05/01/23 09:59	05/12/23 19:14	1
Sodium	1700		2.5	mg/L		05/01/23 09:59	06/07/23 13:33	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:07	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:07	10
Barium	0.011		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:07	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:07	10
Chromium	ND	E8	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:07	10
Cobalt	0.0016	E4	0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:07	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:07	10
Molybdenum	0.0066		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:07	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-11

Date Collected: 04/24/23 17:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:07	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:07	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 10:57	10
Cobalt	0.0015	E4	0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 10:57	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.35		0.050	mg/L			05/03/23 13:51	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:46	1
Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			05/01/23 17:06	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 17:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			05/01/23 17:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:06	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:06	1
Total Dissolved Solids (SM 2540C)	8000		100	mg/L			04/28/23 15:24	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			05/03/23 14:59	1
Temperature (SM 4500 H+ B)	13.0	H5 T5	0.1	Degrees C			05/03/23 14:59	1

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-12

Date Collected: 04/24/23 17:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.17		0.10	mg/L		05/01/23 09:53	05/16/23 05:19	1
Manganese	5.7		0.010	mg/L		05/01/23 09:53	05/16/23 05:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.58	T5	0.50	mg/L			05/02/23 17:08	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.57	T5	0.50	mg/L			05/02/23 17:08	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.58	T5	0.50	mg/L			05/02/23 17:08	1

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	mg/L			05/15/23 22:32	200

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 22:13	10
Sulfate	2800	D2	400	mg/L			05/15/23 22:32	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:17	1
Lithium	0.19		0.020	mg/L		05/02/23 08:08	05/05/23 03:56	1
Boron	3.4		0.050	mg/L		05/01/23 09:59	05/12/23 19:17	1
Calcium	590		2.0	mg/L		05/01/23 09:59	05/12/23 19:17	1
Iron	0.66		0.10	mg/L		05/01/23 09:59	05/12/23 19:17	1
Magnesium	280		2.0	mg/L		05/01/23 09:59	05/12/23 19:17	1
Manganese	0.056		0.010	mg/L		05/01/23 09:59	06/01/23 04:34	1
Potassium	26		0.50	mg/L		05/01/23 09:59	05/12/23 19:17	1
Sodium	1300		2.5	mg/L		05/01/23 09:59	06/07/23 13:36	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:09	10
Arsenic	0.016		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:09	10
Barium	0.17		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:09	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:09	10
Chromium	0.0012	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:09	10
Cobalt	0.00062	E4	0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:09	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:09	10
Molybdenum	0.026		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:09	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:09	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:09	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.015		0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 10:59	10
Cobalt	ND	E8	0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 10:59	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:50	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:48	1
Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			05/03/23 16:33	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 16:33	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			05/03/23 16:33	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:33	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:33	1
Total Dissolved Solids (SM 2540C)	6500	B1	100	mg/L			05/03/23 15:19	1
pH (SM 4500 H+ B)	8.3	H5	1.7	SU			05/03/23 15:02	1
Temperature (SM 4500 H+ B)	15.2	H5 T5	0.1	Degrees C			05/03/23 15:02	1
Total Organic Carbon (SM 5310B)	2.2		0.50	mg/L			05/02/23 09:01	1
Total Organic Carbon - Duplicates (SM 5310B)	2.2		0.50	mg/L			05/02/23 09:01	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad (SM 5310B)	2.2		0.50	mg/L			05/02/23 09:01	1

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-14

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:21	1
Manganese	0.028		0.010	mg/L		05/01/23 09:53	05/16/23 05:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.0	T5	0.50	mg/L			05/02/23 17:24	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.0	T5	0.50	mg/L			05/02/23 17:24	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.0	T5	0.50	mg/L			05/02/23 17:24	1

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-15

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400	mg/L			05/15/23 23:08	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 22:50	10
Sulfate	3200	D2	400	mg/L			05/15/23 23:08	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:20	1
Lithium	0.28		0.020	mg/L		05/02/23 08:08	05/05/23 04:00	1
Boron	4.7		0.050	mg/L		05/01/23 09:59	05/12/23 19:20	1
Calcium	710		2.0	mg/L		05/01/23 09:59	05/12/23 19:20	1
Iron	0.65		0.10	mg/L		05/01/23 09:59	05/12/23 19:20	1
Magnesium	290		2.0	mg/L		05/01/23 09:59	05/12/23 19:20	1
Manganese	2.7		0.010	mg/L		05/01/23 09:59	06/01/23 04:37	1
Potassium	14		0.50	mg/L		05/01/23 09:59	05/12/23 19:20	1
Sodium	1700		2.5	mg/L		05/01/23 09:59	06/07/23 13:39	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:36	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:36	10
Barium	0.0094		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:36	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:36	10
Chromium	ND	E8	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:36	10
Cobalt	0.0063		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:36	10
Lead	0.0027		0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:36	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-15

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.016		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:36	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:36	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:36	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:02	10
Cobalt	0.0064		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:02	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.11		0.050	mg/L			05/03/23 13:48	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:50	1
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			05/03/23 16:39	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 16:39	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			05/03/23 16:39	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:39	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:39	1
Total Dissolved Solids (SM 2540C)	8300	B1	100	mg/L			05/03/23 15:19	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			05/03/23 15:05	1
Temperature (SM 4500 H+ B)	14.5	H5 T5	0.1	Degrees C			05/03/23 15:05	1
Total Organic Carbon (SM 5310B)	1.3		0.50	mg/L			05/02/23 09:16	1
Total Organic Carbon - Duplicates (SM 5310B)	1.3		0.50	mg/L			05/02/23 09:16	1
Total Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			05/02/23 09:16	1

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-16

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.19		0.10	mg/L		05/01/23 09:53	05/16/23 05:24	1
Manganese	2.6		0.010	mg/L		05/01/23 09:53	05/16/23 05:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3	T5	0.50	mg/L			05/02/23 17:37	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3	T5	0.50	mg/L			05/02/23 17:37	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3	T5	0.50	mg/L			05/02/23 17:37	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-17

Date Collected: 04/26/23 09:00

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	mg/L			05/15/23 23:45	200
Fluoride	ND	D1 D5	4.0	mg/L			05/15/23 23:27	10
Sulfate	3100	D2	400	mg/L			05/15/23 23:45	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:23	1
Lithium	0.23		0.020	mg/L		05/02/23 08:08	05/05/23 04:04	1
Boron	3.8		0.050	mg/L		05/01/23 09:59	05/12/23 19:23	1
Calcium	680		2.0	mg/L		05/01/23 09:59	05/12/23 19:23	1
Iron	0.17		0.10	mg/L		05/01/23 09:59	05/12/23 19:23	1
Magnesium	260		2.0	mg/L		05/01/23 09:59	05/12/23 19:23	1
Manganese	1.3		0.010	mg/L		05/01/23 09:59	06/01/23 04:40	1
Potassium	14		0.50	mg/L		05/01/23 09:59	05/12/23 19:23	1
Sodium	1400		2.5	mg/L		05/01/23 09:59	06/07/23 13:42	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:34	10
Arsenic	0.0023		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:34	10
Barium	0.0059		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:34	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:34	10
Chromium	ND	E8	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:34	10
Cobalt	0.014		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:34	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:34	10
Molybdenum	0.020		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:34	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:34	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:34	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:37	10
Cobalt	0.013		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:37	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.079	M2	0.050	mg/L			05/03/23 13:44	1
Nitrate Nitrite as N (EPA 353.2)	0.33		0.10	mg/L			05/05/23 12:52	1
Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			05/03/23 16:47	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 16:47	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			05/03/23 16:47	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:47	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:47	1
Total Dissolved Solids (SM 2540C)	7400	B1	100	mg/L			05/03/23 15:19	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			05/03/23 15:07	1
Temperature (SM 4500 H+ B)	13.4	H5 T5	0.1	Degrees C			05/03/23 15:07	1
Total Organic Carbon (SM 5310B)	0.88		0.50	mg/L			05/04/23 20:27	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-17

Date Collected: 04/26/23 09:00

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (SM 5310B)	0.88		0.50	mg/L			05/04/23 20:27	1
Total Organic Carbon - Quad (SM 5310B)	0.88		0.50	mg/L			05/04/23 20:27	1

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-18

Date Collected: 04/26/23 09:00

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:27	1
Manganese	1.0		0.010	mg/L		05/01/23 09:53	05/16/23 05:27	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.95	T5	0.50	mg/L			05/02/23 17:54	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.95	T5	0.50	mg/L			05/02/23 17:54	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.95	T5	0.50	mg/L			05/02/23 17:54	1

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-19

Date Collected: 04/26/23 09:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	40	mg/L			05/16/23 15:37	20
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 15:37	20
Sulfate	3200	D2	40	mg/L			05/16/23 15:37	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:25	1
Lithium	0.23		0.020	mg/L		05/02/23 08:08	05/05/23 04:08	1
Boron	4.4		0.050	mg/L		05/01/23 09:59	05/12/23 19:25	1
Calcium	670		2.0	mg/L		05/01/23 09:59	05/12/23 19:25	1
Iron	1.5		0.10	mg/L		05/01/23 09:59	05/12/23 19:25	1
Magnesium	280		2.0	mg/L		05/01/23 09:59	05/12/23 19:25	1
Manganese	1.5		0.010	mg/L		05/01/23 09:59	06/01/23 04:43	1
Potassium	16		0.50	mg/L		05/01/23 09:59	05/12/23 19:25	1
Sodium	1400		2.5	mg/L		05/01/23 09:59	06/07/23 13:45	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:31	10
Arsenic	0.0039		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:31	10
Barium	0.013		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:31	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:31	10
Chromium	0.0056	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:31	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-19

Date Collected: 04/26/23 09:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.014		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:31	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:31	10
Molybdenum	0.019		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:31	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:31	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:31	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:40	10
Cobalt	0.013		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:40	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.056		0.050	mg/L			05/03/23 13:29	1
Nitrate Nitrite as N (EPA 353.2)	0.24		0.10	mg/L			05/05/23 12:54	1
Alkalinity as CaCO3 (SM 2320B)	86		6.0	mg/L			05/03/23 16:54	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 16:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	86		6.0	mg/L			05/03/23 16:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:54	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 16:54	1
Total Dissolved Solids (SM 2540C)	7900		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			05/03/23 15:08	1
Temperature (SM 4500 H+ B)	13.1	H5 T5	0.1	Degrees C			05/03/23 15:08	1
Total Organic Carbon (SM 5310B)	1.0		0.50	mg/L			05/04/23 20:44	1
Total Organic Carbon - Duplicates (SM 5310B)	1.0		0.50	mg/L			05/04/23 20:44	1
Total Organic Carbon - Quad (SM 5310B)	1.0		0.50	mg/L			05/04/23 20:44	1

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-20

Date Collected: 04/26/23 09:16

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.12		0.10	mg/L		05/01/23 09:53	05/16/23 05:30	1
Manganese	1.3		0.010	mg/L		05/01/23 09:53	05/16/23 05:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.98	T5	0.50	mg/L			05/02/23 18:07	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.98	T5	0.50	mg/L			05/02/23 18:07	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.98	T5	0.50	mg/L			05/02/23 18:07	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-21

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	40	mg/L			05/16/23 15:36	20
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 15:36	20
Sulfate	3100	D2	40	mg/L			05/16/23 15:36	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:34	1
Lithium	0.23		0.020	mg/L		05/02/23 08:08	05/05/23 04:12	1
Boron	3.7		0.050	mg/L		05/01/23 09:59	05/12/23 19:34	1
Calcium	680		2.0	mg/L		05/01/23 09:59	05/12/23 19:34	1
Iron	0.84		0.10	mg/L		05/01/23 09:59	05/12/23 19:34	1
Magnesium	250		2.0	mg/L		05/01/23 09:59	05/12/23 19:34	1
Manganese	3.9		0.010	mg/L		05/01/23 09:59	06/01/23 04:51	1
Potassium	13		0.50	mg/L		05/01/23 09:59	05/12/23 19:34	1
Sodium	1600		2.5	mg/L		05/01/23 09:59	06/07/23 13:53	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:29	10
Arsenic	0.0014	E4	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:29	10
Barium	0.0094		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:29	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:29	10
Chromium	0.012		0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:29	10
Cobalt	0.014		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:29	10
Lead	0.0017	E4	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:29	10
Molybdenum	0.037		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:29	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:29	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:29	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:42	10
Cobalt	0.014		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:42	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.29		0.050	mg/L			05/03/23 13:27	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:56	1
Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			05/03/23 17:01	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:01	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	82		6.0	mg/L			05/03/23 17:01	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:01	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:01	1
Total Dissolved Solids (SM 2540C)	8100		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			05/03/23 15:09	1
Temperature (SM 4500 H+ B)	13.5	H5 T5	0.1	Degrees C			05/03/23 15:09	1
Total Organic Carbon (SM 5310B)	0.97		0.50	mg/L			05/04/23 20:57	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-21

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (SM 5310B)	0.97		0.50	mg/L			05/04/23 20:57	1
Total Organic Carbon - Quad (SM 5310B)	0.97		0.50	mg/L			05/04/23 20:57	1

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-22

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:38	1
Manganese	3.7		0.010	mg/L		05/01/23 09:53	05/16/23 05:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.97	T5	0.50	mg/L			05/02/23 18:50	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.95	T5	0.50	mg/L			05/02/23 18:50	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.97	T5	0.50	mg/L			05/02/23 18:50	1

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-23

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	40	mg/L			05/16/23 16:32	20
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 16:32	20
Sulfate	3100	D2	40	mg/L			05/16/23 16:32	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:37	1
Lithium	0.22		0.020	mg/L		05/02/23 15:00	05/04/23 15:18	1
Boron	3.6		0.050	mg/L		05/01/23 09:59	05/12/23 19:37	1
Calcium	710		2.0	mg/L		05/01/23 09:59	05/12/23 19:37	1
Iron	0.16		0.10	mg/L		05/01/23 09:59	05/12/23 19:37	1
Magnesium	270		2.0	mg/L		05/01/23 09:59	05/12/23 19:37	1
Manganese	4.2		0.010	mg/L		05/01/23 09:59	06/01/23 04:54	1
Potassium	15		0.50	mg/L		05/01/23 09:59	05/12/23 19:37	1
Sodium	1500		2.5	mg/L		05/01/23 09:59	06/07/23 13:56	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:27	10
Arsenic	0.0013	E4	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:27	10
Barium	0.011		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:27	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:27	10
Chromium	0.0057	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:27	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-23

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.014		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:27	10
Lead	0.0042		0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:27	10
Molybdenum	0.034		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:27	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:27	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:27	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00096	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:44	10
Cobalt	0.013		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:44	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.32		0.050	mg/L			05/03/23 13:26	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 12:58	1
Alkalinity as CaCO3 (SM 2320B)	85		6.0	mg/L			05/03/23 17:08	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:08	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	85		6.0	mg/L			05/03/23 17:08	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:08	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:08	1
Total Dissolved Solids (SM 2540C)	8000		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			05/03/23 15:10	1
Temperature (SM 4500 H+ B)	12.9	H5 T5	0.1	Degrees C			05/03/23 15:10	1
Total Organic Carbon (SM 5310B)	1.0		0.50	mg/L			05/04/23 21:10	1
Total Organic Carbon - Duplicates (SM 5310B)	1.0		0.50	mg/L			05/04/23 21:10	1
Total Organic Carbon - Quad (SM 5310B)	1.0		0.50	mg/L			05/04/23 21:10	1

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-24

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:41	1
Manganese	3.9		0.010	mg/L		05/01/23 09:53	05/16/23 05:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:06	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-25

Date Collected: 04/26/23 10:11

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	40	mg/L			05/16/23 17:00	20
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 17:00	20
Sulfate	3100	D2	40	mg/L			05/16/23 17:00	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:40	1
Lithium	0.23		0.020	mg/L		05/02/23 15:00	05/04/23 15:38	1
Boron	3.8		0.050	mg/L		05/01/23 09:59	05/12/23 19:40	1
Calcium	710		2.0	mg/L		05/01/23 09:59	05/12/23 19:40	1
Iron	ND		0.10	mg/L		05/01/23 09:59	05/12/23 19:40	1
Magnesium	250		2.0	mg/L		05/01/23 09:59	05/12/23 19:40	1
Manganese	3.4		0.010	mg/L		05/01/23 09:59	06/01/23 04:57	1
Potassium	11		0.50	mg/L		05/01/23 09:59	05/12/23 19:40	1
Sodium	1400		2.5	mg/L		05/01/23 09:59	06/07/23 13:59	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8 M1	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:21	10
Arsenic	0.0020		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:21	10
Barium	0.0090		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:21	10
Cadmium	0.0017	E4	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:21	10
Chromium	ND	E8	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:21	10
Cobalt	0.018		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:21	10
Lead	0.0020		0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:21	10
Molybdenum	0.050		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:21	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:21	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:21	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:46	10
Cobalt	0.017		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:46	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.085		0.050	mg/L			05/03/23 13:24	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 13:16	1
Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			05/03/23 17:29	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:29	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			05/03/23 17:29	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:29	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:29	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			05/03/23 15:12	1
Temperature (SM 4500 H+ B)	12.5	H5 T5	0.1	Degrees C			05/03/23 15:12	1
Total Organic Carbon (SM 5310B)	0.97	M2	0.50	mg/L			05/04/23 22:31	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-25

Date Collected: 04/26/23 10:11

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (SM 5310B)	0.97	M2	0.50	mg/L			05/04/23 22:31	1
Total Organic Carbon - Quad (SM 5310B)	0.97	M2	0.50	mg/L			05/04/23 22:31	1

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-26

Date Collected: 04/26/23 10:11

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:44	1
Manganese	3.2		0.010	mg/L		05/01/23 09:53	05/16/23 05:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:22	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:22	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:22	1

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-27

Date Collected: 04/26/23 10:29

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	mg/L			05/16/23 20:35	200
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 20:17	20
Sulfate	3100	D2	400	mg/L			05/16/23 20:35	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:42	1
Lithium	0.22		0.020	mg/L		05/02/23 15:00	05/04/23 16:02	1
Boron	3.8		0.050	mg/L		05/01/23 09:59	05/12/23 19:42	1
Calcium	720		2.0	mg/L		05/01/23 09:59	05/12/23 19:42	1
Iron	0.23		0.10	mg/L		05/01/23 09:59	05/12/23 19:42	1
Magnesium	250		2.0	mg/L		05/01/23 09:59	05/12/23 19:42	1
Manganese	2.2		0.010	mg/L		05/01/23 09:59	06/01/23 05:00	1
Potassium	11		0.50	mg/L		05/01/23 09:59	05/12/23 19:42	1
Sodium	1500		2.5	mg/L		05/01/23 09:59	06/07/23 14:03	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:11	10
Arsenic	0.0020		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:11	10
Barium	0.0076		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:11	10
Cadmium	0.00055	E4	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:11	10
Chromium	0.045		0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:11	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-27

Date Collected: 04/26/23 10:29

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.017		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:11	10
Lead	0.0029		0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:11	10
Molybdenum	0.041		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:11	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:11	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:11	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:48	10
Cobalt	0.016		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:48	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:23	1
Nitrate Nitrite as N (EPA 353.2)	0.13		0.10	mg/L			05/05/23 13:18	1
Alkalinity as CaCO3 (SM 2320B)	73		6.0	mg/L			05/03/23 17:43	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:43	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	73		6.0	mg/L			05/03/23 17:43	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:43	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:43	1
Total Dissolved Solids (SM 2540C)	7800		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			05/03/23 15:14	1
Temperature (SM 4500 H+ B)	13.4	H5 T5	0.1	Degrees C			05/03/23 15:14	1
Total Organic Carbon (SM 5310B)	0.97		0.50	mg/L			05/04/23 23:15	1
Total Organic Carbon - Duplicates (SM 5310B)	0.95		0.50	mg/L			05/04/23 23:15	1
Total Organic Carbon - Quad (SM 5310B)	0.97		0.50	mg/L			05/04/23 23:15	1

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-28

Date Collected: 04/26/23 10:29

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.15		0.10	mg/L		05/01/23 09:53	05/16/23 05:47	1
Manganese	1.1		0.010	mg/L		05/01/23 09:53	05/16/23 05:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:35	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:35	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.0	T5	0.50	mg/L			05/02/23 19:35	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-29

Date Collected: 04/26/23 10:54

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	100	mg/L			05/16/23 20:54	50
Fluoride	ND	D1 D5	20	mg/L			05/16/23 20:54	50
Sulfate	3100	D2	100	mg/L			05/16/23 20:54	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:45	1
Lithium	0.29		0.020	mg/L		05/02/23 15:00	05/04/23 16:06	1
Boron	3.4		0.050	mg/L		05/01/23 09:59	06/01/23 05:03	1
Calcium	710		2.0	mg/L		05/01/23 09:59	05/12/23 19:45	1
Iron	2.0		0.10	mg/L		05/01/23 09:59	05/12/23 19:45	1
Magnesium	230		2.0	mg/L		05/01/23 09:59	05/12/23 19:45	1
Manganese	3.9		0.010	mg/L		05/01/23 09:59	06/01/23 05:03	1
Potassium	17		0.50	mg/L		05/01/23 09:59	05/12/23 19:45	1
Sodium	1600		2.5	mg/L		05/01/23 09:59	06/07/23 14:06	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 10:40	10
Arsenic	0.0025		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 10:40	10
Barium	0.0038	E4	0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 10:40	10
Cadmium	0.0010	E4	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 10:40	10
Chromium	0.55		0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 10:40	10
Cobalt	0.012		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 10:40	10
Lead	0.0016	E4	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 10:40	10
Molybdenum	0.11		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 10:40	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 10:40	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 10:40	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	E4	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:25	10
Cobalt	0.0063		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:25	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.092		0.050	mg/L			05/03/23 13:21	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 13:20	1
Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			05/03/23 17:50	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			05/03/23 17:50	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:50	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:50	1
Total Dissolved Solids (SM 2540C)	8300		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			05/03/23 15:15	1
Temperature (SM 4500 H+ B)	14.5	H5 T5	0.1	Degrees C			05/03/23 15:15	1
Total Organic Carbon (SM 5310B)	1.1		0.50	mg/L			05/04/23 23:32	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-29

Date Collected: 04/26/23 10:54

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (SM 5310B)	1.1		0.50	mg/L			05/04/23 23:32	1
Total Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			05/04/23 23:32	1

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-30

Date Collected: 04/26/23 10:54

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.25		0.10	mg/L		05/01/23 09:53	05/16/23 05:50	1
Manganese	4.1		0.010	mg/L		05/01/23 09:53	05/16/23 05:50	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2	T5	0.50	mg/L			05/02/23 19:52	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2	T5	0.50	mg/L			05/02/23 19:52	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2	T5	0.50	mg/L			05/02/23 19:52	1

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-31

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3300	D2	40	mg/L			05/16/23 20:16	20
Fluoride	ND	D1 D5	8.0	mg/L			05/16/23 20:16	20
Sulfate	3000	D2	40	mg/L			05/16/23 20:16	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:48	1
Lithium	0.50		0.020	mg/L		05/02/23 15:00	05/04/23 16:10	1
Boron	0.37		0.050	mg/L		05/01/23 09:59	06/01/23 05:06	1
Calcium	760		2.0	mg/L		05/01/23 09:59	05/12/23 19:48	1
Iron	0.16		0.10	mg/L		05/01/23 09:59	05/12/23 19:48	1
Magnesium	180		2.0	mg/L		05/01/23 09:59	05/12/23 19:48	1
Manganese	0.036		0.010	mg/L		05/01/23 09:59	06/01/23 05:06	1
Potassium	5.0		0.50	mg/L		05/01/23 09:59	05/12/23 19:48	1
Sodium	2100		2.5	mg/L		05/01/23 09:59	06/07/23 14:09	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:53	06/05/23 11:57	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:53	06/05/23 11:57	10
Barium	0.011		0.0050	0.0019	mg/L		06/05/23 06:53	06/05/23 11:57	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:53	06/05/23 11:57	10
Chromium	0.014		0.010	0.0012	mg/L		06/05/23 06:53	06/05/23 11:57	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-31

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.013		0.0020	0.00039	mg/L		06/05/23 06:53	06/05/23 11:57	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:53	06/05/23 11:57	10
Molybdenum	0.016		0.0050	0.0016	mg/L		06/05/23 06:53	06/05/23 11:57	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:53	06/05/23 11:57	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:53	06/05/23 11:57	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:28	10
Cobalt	0.012		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:28	10

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:20	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 13:22	1
Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			05/03/23 17:57	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 17:57	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			05/03/23 17:57	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:57	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 17:57	1
Total Dissolved Solids (SM 2540C)	9600		100	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			05/03/23 15:17	1
Temperature (SM 4500 H+ B)	14.2	H5 T5	0.1	Degrees C			05/03/23 15:17	1
Total Organic Carbon (SM 5310B)	1.7		0.50	mg/L			05/04/23 23:45	1
Total Organic Carbon - Duplicates (SM 5310B)	1.7		0.50	mg/L			05/04/23 23:45	1
Total Organic Carbon - Quad (SM 5310B)	1.7		0.50	mg/L			05/04/23 23:45	1

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-32

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:53	1
Manganese	0.017		0.010	mg/L		05/01/23 09:53	05/16/23 05:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.6	T5	0.50	mg/L			05/02/23 20:05	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.6	T5	0.50	mg/L			05/02/23 20:05	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.6	T5	0.50	mg/L			05/02/23 20:05	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-33

Date Collected: 04/26/23 12:46

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/16/23 21:30	1
Fluoride	ND		0.40	mg/L			05/16/23 21:30	1
Sulfate	ND		2.0	mg/L			05/16/23 21:30	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:51	1
Lithium	ND		0.020	mg/L		05/02/23 15:00	05/04/23 16:14	1
Boron	ND		0.050	mg/L		05/01/23 09:59	05/12/23 19:51	1
Calcium	ND		2.0	mg/L		05/01/23 09:59	05/12/23 19:51	1
Iron	ND		0.10	mg/L		05/01/23 09:59	05/12/23 19:51	1
Magnesium	ND		2.0	mg/L		05/01/23 09:59	05/12/23 19:51	1
Manganese	ND		0.010	mg/L		05/01/23 09:59	06/01/23 05:08	1
Potassium	ND		0.50	mg/L		05/01/23 09:59	05/12/23 19:51	1
Sodium	ND		0.50	mg/L		05/01/23 09:59	05/12/23 19:51	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.00051	mg/L		06/05/23 06:33	06/05/23 11:12	1
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 06:33	06/05/23 11:12	1
Barium	0.00068		0.00050	0.00019	mg/L		06/05/23 06:33	06/05/23 11:12	1
Cadmium	ND	E8	0.00020	0.000044	mg/L		06/05/23 06:33	06/05/23 11:12	1
Chromium	0.00016	E4	0.0010	0.00012	mg/L		06/05/23 06:33	06/05/23 11:12	1
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 06:33	06/05/23 11:12	1
Lead	ND	E8	0.00020	0.00012	mg/L		06/05/23 06:33	06/05/23 11:12	1
Molybdenum	ND	E8	0.00050	0.00016	mg/L		06/05/23 06:33	06/05/23 11:12	1
Selenium	ND	E8	0.0010	0.00071	mg/L		06/05/23 06:33	06/05/23 11:12	1
Thallium	ND	E8	0.00020	0.000081	mg/L		06/05/23 06:33	06/05/23 11:12	1

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 08:11	06/05/23 11:14	1
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 08:11	06/05/23 11:14	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:18	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 13:24	1
Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 18:03	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/03/23 18:03	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 18:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 18:03	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/03/23 18:03	1
Total Dissolved Solids (SM 2540C)	ND		20	mg/L			05/03/23 15:31	1
pH (SM 4500 H+ B)	6.1	H5	1.7	SU			05/03/23 15:22	1
Temperature (SM 4500 H+ B)	14.0	H5 T5	0.1	Degrees C			05/03/23 15:22	1
Total Organic Carbon (SM 5310B)	ND		0.50	mg/L			05/05/23 00:01	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-33

Date Collected: 04/26/23 12:46

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates (SM 5310B)	ND		0.50	mg/L			05/05/23 00:01	1
Total Organic Carbon - Quad (SM 5310B)	ND		0.50	mg/L			05/05/23 00:01	1

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-34

Date Collected: 04/26/23 12:46

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 05:55	1
Manganese	ND		0.010	mg/L		05/01/23 09:53	05/16/23 05:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	ND	T5	0.50	mg/L			05/02/23 20:18	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	ND	T5	0.50	mg/L			05/02/23 20:18	1
Dissolved Organic Carbon - Quad (SM 5310B)	ND	T5	0.50	mg/L			05/02/23 20:18	1

Client Sample ID: CH-CCR-FAP-0423

Lab Sample ID: 550-201346-35

Date Collected: 04/25/23 13:35

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	50000	D2	2000	mg/L			05/16/23 19:20	1000
Fluoride	ND	D1 D5	400	mg/L			05/16/23 19:20	1000
Sulfate	44000	D2	2000	mg/L			05/16/23 19:20	1000

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.010	mg/L		05/01/23 09:59	06/07/23 14:11	10
Lithium	10		0.020	mg/L		05/02/23 15:00	05/04/23 16:18	1
Boron	500		2.0	mg/L		05/01/23 09:59	06/07/23 17:15	40
Calcium	680		10	mg/L		05/01/23 09:59	06/01/23 05:11	5
Iron	1.7		0.50	mg/L		05/01/23 09:59	06/01/23 05:11	5
Magnesium	9500		80	mg/L		05/01/23 09:59	06/07/23 17:15	40
Manganese	28		0.050	mg/L		05/01/23 09:59	06/01/23 05:11	5
Potassium	680		2.5	mg/L		05/01/23 09:59	06/01/23 05:11	5
Sodium	26000		20	mg/L		05/01/23 09:59	06/07/23 17:15	40

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.052	E4	0.10	0.051	mg/L		06/05/23 06:33	06/05/23 09:54	100
Arsenic	0.54		0.020	0.0083	mg/L		06/05/23 06:33	06/05/23 09:54	100
Barium	0.17		0.050	0.019	mg/L		06/05/23 06:33	06/05/23 09:54	100
Cadmium	ND	E8	0.020	0.0044	mg/L		06/05/23 06:33	06/05/23 09:54	100
Chromium	ND	E8	0.10	0.012	mg/L		06/05/23 06:33	06/05/23 09:54	100

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FAP-0423

Lab Sample ID: 550-201346-35

Date Collected: 04/25/23 13:35

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.023		0.020	0.0039	mg/L		06/05/23 06:33	06/05/23 09:54	100
Lead	ND	E8	0.020	0.012	mg/L		06/05/23 06:33	06/05/23 09:54	100
Molybdenum	0.83		0.050	0.016	mg/L		06/05/23 06:33	06/05/23 09:54	100
Selenium	0.13		0.10	0.071	mg/L		06/05/23 06:33	06/05/23 09:54	100
Thallium	ND	E8	0.020	0.0081	mg/L		06/05/23 06:33	06/05/23 09:54	100

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.069		0.020	0.0083	mg/L		06/05/23 08:11	06/05/23 11:16	100
Cobalt	0.021		0.020	0.0039	mg/L		06/05/23 08:11	06/05/23 11:16	100

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.077		0.050	mg/L			05/03/23 13:17	1
Nitrate Nitrite as N (EPA 353.2)	ND		2.0	mg/L			05/05/23 13:32	20
Alkalinity as CaCO3 (SM 2320B)	260		6.0	mg/L			05/01/23 17:14	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 17:14	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	260		6.0	mg/L			05/01/23 17:14	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:14	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:14	1
Total Dissolved Solids (SM 2540C)	150000		1000	mg/L			05/02/23 18:03	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			05/03/23 15:24	1
Temperature (SM 4500 H+ B)	13.1	H5 T5	0.1	Degrees C			05/03/23 15:24	1
Total Organic Carbon (SM 5310B)	64	D1	5.0	mg/L			05/05/23 00:18	10
Total Organic Carbon - Duplicates (SM 5310B)	64	D1	5.0	mg/L			05/05/23 00:18	10
Total Organic Carbon - Quad (SM 5310B)	64	D1	5.0	mg/L			05/05/23 00:18	10

Client Sample ID: CH-CCR-FAP-0423

Lab Sample ID: 550-201346-36

Date Collected: 04/25/23 13:35

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.2		0.50	mg/L		05/01/23 09:53	06/01/23 05:25	5
Manganese	29		0.050	mg/L		05/01/23 09:53	06/01/23 05:25	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	62	D1 T5	5.0	mg/L			05/02/23 20:34	10
Dissolved Organic Carbon - Duplicate (SM 5310B)	62	D1 T5	5.0	mg/L			05/02/23 20:34	10
Dissolved Organic Carbon - Quad (SM 5310B)	62	D1 T5	5.0	mg/L			05/02/23 20:34	10

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-37

Date Collected: 04/25/23 12:43

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6600	D2	200	mg/L			05/16/23 21:12	100
Fluoride	ND	D1 D5	40	mg/L			05/16/23 21:12	100
Sulfate	4800	D2	200	mg/L			05/16/23 21:12	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:57	1
Lithium	0.69		0.020	mg/L		05/02/23 15:00	05/04/23 16:22	1
Boron	57		0.050	mg/L		05/01/23 09:59	05/12/23 19:57	1
Calcium	690		2.0	mg/L		05/01/23 09:59	05/12/23 19:57	1
Iron	0.24		0.10	mg/L		05/01/23 09:59	05/12/23 19:57	1
Magnesium	530		2.0	mg/L		05/01/23 09:59	05/12/23 19:57	1
Manganese	0.12		0.010	mg/L		05/01/23 09:59	06/01/23 05:14	1
Potassium	50		0.50	mg/L		05/01/23 09:59	05/12/23 19:57	1
Sodium	4000		5.0	mg/L		05/01/23 09:59	06/07/23 14:17	10

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 11:03	10
Arsenic	0.019		0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 11:03	10
Barium	0.0050		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 11:03	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 11:03	10
Chromium	0.0032	E4	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 11:03	10
Cobalt	0.0029		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 11:03	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 11:03	10
Molybdenum	0.035		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 11:03	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 11:03	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 11:03	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.017		0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:50	10
Cobalt	0.0025		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:50	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:12	1
Nitrate Nitrite as N (EPA 353.2)	0.77		0.10	mg/L			05/05/23 13:26	1
Alkalinity as CaCO3 (SM 2320B)	66		6.0	mg/L			05/01/23 17:21	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 17:21	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	66		6.0	mg/L			05/01/23 17:21	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:21	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:21	1
Total Dissolved Solids (SM 2540C)	16000		200	mg/L			05/02/23 18:03	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-37

Date Collected: 04/25/23 12:43

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			05/03/23 15:25	1
Temperature (SM 4500 H+ B)	12.6	H5 T5	0.1	Degrees C			05/03/23 15:25	1
Total Organic Carbon (SM 5310B)	2.2		0.50	mg/L			05/05/23 00:32	1
Total Organic Carbon - Duplicates (SM 5310B)	2.2		0.50	mg/L			05/05/23 00:32	1
Total Organic Carbon - Quad (SM 5310B)	2.2		0.50	mg/L			05/05/23 00:32	1

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-38

Date Collected: 04/25/23 12:43

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.16		0.10	mg/L		05/01/23 09:53	05/16/23 06:01	1
Manganese	0.13		0.010	mg/L		05/01/23 09:53	05/16/23 06:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.2	T5	0.50	mg/L			05/02/23 20:47	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.2	T5	0.50	mg/L			05/02/23 20:47	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.2	T5	0.50	mg/L			05/02/23 20:47	1

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-39

Date Collected: 04/25/23 13:04

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6500	D2	400	mg/L			05/16/23 01:02	200
Fluoride	8.2	D1	8.0	mg/L			05/16/23 00:34	20
Sulfate	4500	D2	400	mg/L			05/16/23 01:02	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 19:59	1
Lithium	0.71		0.020	mg/L		05/02/23 15:00	05/04/23 16:26	1
Boron	58		0.050	mg/L		05/01/23 09:59	05/12/23 19:59	1
Calcium	800		2.0	mg/L		05/01/23 09:59	05/12/23 19:59	1
Iron	0.14		0.10	mg/L		05/01/23 09:59	05/12/23 19:59	1
Magnesium	530		2.0	mg/L		05/01/23 09:59	05/12/23 19:59	1
Manganese	ND		0.010	mg/L		05/01/23 09:59	06/01/23 05:17	1
Potassium	55		0.50	mg/L		05/01/23 09:59	05/12/23 19:59	1
Sodium	3900		5.0	mg/L		05/01/23 09:59	06/07/23 14:14	10

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:53	06/05/23 11:55	10
Arsenic	0.0073		0.0020	0.00083	mg/L		06/05/23 06:53	06/05/23 11:55	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-39

Date Collected: 04/25/23 13:04

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.0099		0.0050	0.0019	mg/L		06/05/23 06:53	06/05/23 11:55	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:53	06/05/23 11:55	10
Chromium	0.0033	E4	0.010	0.0012	mg/L		06/05/23 06:53	06/05/23 11:55	10
Cobalt	0.0027		0.0020	0.00039	mg/L		06/05/23 06:53	06/05/23 11:55	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:53	06/05/23 11:55	10
Molybdenum	0.028		0.0050	0.0016	mg/L		06/05/23 06:53	06/05/23 11:55	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:53	06/05/23 11:55	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:53	06/05/23 11:55	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0068		0.0020	0.00083	mg/L		06/05/23 08:11	06/05/23 11:52	10
Cobalt	0.0026		0.0020	0.00039	mg/L		06/05/23 08:11	06/05/23 11:52	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:26	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			05/03/23 13:02	1
Nitrate Nitrite as N (EPA 353.2)	0.18		0.10	mg/L			05/05/23 13:28	1
Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			05/01/23 17:27	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 17:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			05/01/23 17:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:27	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:27	1
Total Dissolved Solids (SM 2540C)	16000		200	mg/L			05/02/23 18:03	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			05/03/23 15:26	1
Temperature (SM 4500 H+ B)	12.6	H5 T5	0.1	Degrees C			05/03/23 15:26	1
Total Organic Carbon (SM 5310B)	2.5		0.50	mg/L			05/05/23 00:46	1
Total Organic Carbon - Duplicates (SM 5310B)	2.5		0.50	mg/L			05/05/23 00:46	1
Total Organic Carbon - Quad (SM 5310B)	2.5		0.50	mg/L			05/05/23 00:46	1

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-40

Date Collected: 04/25/23 13:04

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 06:04	1
Manganese	ND		0.010	mg/L		05/01/23 09:53	05/16/23 06:04	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.7	T5	0.50	mg/L			05/02/23 21:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-40

Date Collected: 04/25/23 13:04

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.7	T5	0.50	mg/L			05/02/23 21:01	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.7	T5	0.50	mg/L			05/02/23 21:01	1

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-41

Date Collected: 04/25/23 11:13

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5200	D2	400	mg/L			05/16/23 01:57	200
Fluoride	4.2	D1	4.0	mg/L			05/16/23 01:29	10
Sulfate	3100	D2	400	mg/L			05/16/23 01:57	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		05/10/23 07:43	05/16/23 07:09	1
Lithium	0.47		0.020	mg/L		05/02/23 15:00	05/04/23 16:31	1
Boron	31		0.050	mg/L		05/10/23 07:43	05/16/23 07:09	1
Calcium	810		2.0	mg/L		05/10/23 07:43	05/16/23 07:09	1
Iron	ND		0.50	mg/L		05/10/23 07:43	06/01/23 03:49	5
Magnesium	240		2.0	mg/L		05/10/23 07:43	05/16/23 07:09	1
Manganese	6.7		0.010	mg/L		05/10/23 07:43	05/16/23 07:09	1
Potassium	27		0.50	mg/L		05/10/23 07:43	05/16/23 07:09	1
Sodium	3500		2.5	mg/L		05/10/23 07:43	06/01/23 03:49	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.010	0.0051	mg/L		06/05/23 06:33	06/05/23 11:06	10
Arsenic	ND	E8	0.0020	0.00083	mg/L		06/05/23 06:33	06/05/23 11:06	10
Barium	0.0095		0.0050	0.0019	mg/L		06/05/23 06:33	06/05/23 11:06	10
Cadmium	ND	E8	0.0020	0.00044	mg/L		06/05/23 06:33	06/05/23 11:06	10
Chromium	ND	E8	0.010	0.0012	mg/L		06/05/23 06:33	06/05/23 11:06	10
Cobalt	0.0050		0.0020	0.00039	mg/L		06/05/23 06:33	06/05/23 11:06	10
Lead	ND	E8	0.0020	0.0012	mg/L		06/05/23 06:33	06/05/23 11:06	10
Molybdenum	0.88		0.0050	0.0016	mg/L		06/05/23 06:33	06/05/23 11:06	10
Selenium	ND	E8	0.010	0.0071	mg/L		06/05/23 06:33	06/05/23 11:06	10
Thallium	ND	E8	0.0020	0.00081	mg/L		06/05/23 06:33	06/05/23 11:06	10

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013	E4	0.0020	0.00083	mg/L		06/05/23 10:53	06/05/23 13:44	10
Cobalt	0.0053		0.0020	0.00039	mg/L		06/05/23 10:53	06/05/23 13:44	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 21:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.9		0.050	mg/L			05/03/23 13:00	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-41

Date Collected: 04/25/23 11:13

Matrix: Water

Date Received: 04/27/23 08:57

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			05/05/23 13:30	1
Alkalinity as CaCO3 (SM 2320B)	71		6.0	mg/L			05/01/23 17:33	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			05/01/23 17:33	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	71		6.0	mg/L			05/01/23 17:33	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:33	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			05/01/23 17:33	1
Total Dissolved Solids (SM 2540C)	12000		200	mg/L			05/02/23 18:03	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			05/03/23 15:28	1
Temperature (SM 4500 H+ B)	13.3	H5 T5	0.1	Degrees C			05/03/23 15:28	1
Total Organic Carbon (SM 5310B)	2.1		0.50	mg/L			05/05/23 00:59	1
Total Organic Carbon - Duplicates (SM 5310B)	2.1		0.50	mg/L			05/05/23 00:59	1
Total Organic Carbon - Quad (SM 5310B)	2.1		0.50	mg/L			05/05/23 00:59	1

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-42

Date Collected: 04/25/23 11:13

Matrix: Water

Date Received: 04/27/23 08:57

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.90	L3	0.10	mg/L		05/02/23 08:44	05/11/23 15:37	1
Manganese	7.7		0.010	mg/L		05/02/23 08:44	05/11/23 15:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.0	M2 T5	0.50	mg/L			05/03/23 09:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.0	M2 T5	0.50	mg/L			05/03/23 09:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.0	M2 T5	0.50	mg/L			05/03/23 09:06	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-300294/2
Matrix: Water
Analysis Batch: 300294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/15/23 11:13	1
Fluoride	ND		0.40	mg/L			05/15/23 11:13	1
Sulfate	ND		2.0	mg/L			05/15/23 11:13	1

Lab Sample ID: LCS 550-300294/5
Matrix: Water
Analysis Batch: 300294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.18		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-300294/6
Matrix: Water
Analysis Batch: 300294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	3	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-201948-A-1 MS ^20
Matrix: Water
Analysis Batch: 300294

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1300	D2	400	1700	D2	mg/L		95	80 - 120
Fluoride	ND	D1	80.0	85.7	D1	mg/L		104	80 - 120
Sulfate	730	D2	400	1140	D2	mg/L		102	80 - 120

Lab Sample ID: 550-201948-A-1 MSD ^20
Matrix: Water
Analysis Batch: 300294

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1300	D2	400	1700	D2	mg/L		95	80 - 120	0	20
Fluoride	ND	D1	80.0	86.7	D1	mg/L		105	80 - 120	1	20
Sulfate	730	D2	400	1130	D2	mg/L		100	80 - 120	0	20

Lab Sample ID: MB 550-300296/2
Matrix: Water
Analysis Batch: 300296

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/15/23 11:04	1
Fluoride	ND		0.40	mg/L			05/15/23 11:04	1
Sulfate	ND		2.0	mg/L			05/15/23 11:04	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-300296/5
Matrix: Water
Analysis Batch: 300296

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	4.06		mg/L		101	90 - 110
Sulfate	20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-300296/6
Matrix: Water
Analysis Batch: 300296

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.3		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-202209-A-1 MS
Matrix: Water
Analysis Batch: 300296

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	400	E2 M3	20.0	401	E2 M3	mg/L		-5	80 - 120
Fluoride	ND		4.00	4.35		mg/L		99	80 - 120
Sulfate	200	E2 M3	20.0	211	E2 M3	mg/L		52	80 - 120

Lab Sample ID: 550-202209-A-1 MSD
Matrix: Water
Analysis Batch: 300296

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	400	E2 M3	20.0	401	E2 M3	mg/L		-4	80 - 120	0	20
Fluoride	ND		4.00	4.39		mg/L		100	80 - 120	1	20
Sulfate	200	E2 M3	20.0	212	E2 M3	mg/L		54	80 - 120	0	20

Lab Sample ID: MB 550-300390/2
Matrix: Water
Analysis Batch: 300390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/16/23 11:05	1
Fluoride	ND		0.40	mg/L			05/16/23 11:05	1
Sulfate	ND		2.0	mg/L			05/16/23 11:05	1

Lab Sample ID: LCS 550-300390/5
Matrix: Water
Analysis Batch: 300390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		102	90 - 110
Fluoride	4.00	3.98		mg/L		99	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-300390/6
Matrix: Water
Analysis Batch: 300390

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.14		mg/L		103	90 - 110	4	20
Sulfate	20.0	20.7		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-201562-A-24 MS ^5000
Matrix: Water
Analysis Batch: 300390

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	41000		100000	147000		mg/L		106	80 - 120
Fluoride	ND		20000	20300		mg/L		101	80 - 120
Sulfate	87000		100000	191000		mg/L		104	80 - 120

Lab Sample ID: 550-201562-A-24 MSD ^5000
Matrix: Water
Analysis Batch: 300390

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	41000		100000	147000		mg/L		106	80 - 120	0	20
Fluoride	ND		20000	20200		mg/L		101	80 - 120	0	20
Sulfate	87000		100000	192000		mg/L		105	80 - 120	1	20

Lab Sample ID: MB 550-300393/2
Matrix: Water
Analysis Batch: 300393

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/16/23 11:25	1
Fluoride	ND		0.40	mg/L			05/16/23 11:25	1
Sulfate	ND		2.0	mg/L			05/16/23 11:25	1

Lab Sample ID: LCS 550-300393/5
Matrix: Water
Analysis Batch: 300393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.0		mg/L		100	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-300393/6
Matrix: Water
Analysis Batch: 300393

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.97		mg/L		99	90 - 110	2	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-202247-A-1 MS
Matrix: Water
Analysis Batch: 300393

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	450	E2 M3	20.0	443	E2 M3	mg/L		-10	80 - 120
Fluoride	0.83		4.00	4.74		mg/L		98	80 - 120
Sulfate	190	M3	20.0	205	E2 M3	mg/L		55	80 - 120

Lab Sample ID: 550-202247-A-1 MSD
Matrix: Water
Analysis Batch: 300393

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	450	E2 M3	20.0	443	E2 M3	mg/L		-10	80 - 120	0	20
Fluoride	0.83		4.00	4.81		mg/L		100	80 - 120	2	20
Sulfate	190	M3	20.0	205	E2 M3	mg/L		55	80 - 120	0	20

Lab Sample ID: MB 550-300394/2
Matrix: Water
Analysis Batch: 300394

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			05/16/23 10:57	1
Fluoride	ND		0.40	mg/L			05/16/23 10:57	1
Sulfate	ND		2.0	mg/L			05/16/23 10:57	1

Lab Sample ID: LCS 550-300394/5
Matrix: Water
Analysis Batch: 300394

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.04		mg/L		101	90 - 110
Sulfate	20.0	20.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-300394/6
Matrix: Water
Analysis Batch: 300394

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-201562-E-11 MS ^200
Matrix: Water
Analysis Batch: 300394

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5200		4000	9740		mg/L		112	80 - 120
Fluoride	ND		800	807		mg/L		101	80 - 120
Sulfate	2100		4000	6150		mg/L		101	80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-201562-E-11 MSD ^200
Matrix: Water
Analysis Batch: 300394

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5200		4000	9740		mg/L		112	80 - 120	0	20
Fluoride	ND		800	820		mg/L		103	80 - 120	2	20
Sulfate	2100		4000	6180		mg/L		102	80 - 120	0	20

Method: 200.7 - Dissolved Metals by ICP

Lab Sample ID: MB 550-299324/1-A
Matrix: Water
Analysis Batch: 300337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299324

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/01/23 09:53	05/16/23 04:50	1
Manganese	ND		0.010	mg/L		05/01/23 09:53	05/16/23 04:50	1

Lab Sample ID: LCS 550-299324/2-A
Matrix: Water
Analysis Batch: 300337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299324

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	0.994		mg/L		99	85 - 115
Manganese	1.00	1.03		mg/L		103	85 - 115

Lab Sample ID: LCSD 550-299324/3-A
Matrix: Water
Analysis Batch: 300337

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299324

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.00	0.980		mg/L		98	85 - 115	1	20
Manganese	1.00	1.02		mg/L		102	85 - 115	1	20

Lab Sample ID: MB 550-299405/1-A
Matrix: Water
Analysis Batch: 300171

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299405

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		05/02/23 08:44	05/11/23 15:03	1
Manganese	ND		0.010	mg/L		05/02/23 08:44	05/11/23 15:03	1

Lab Sample ID: LCS 550-299405/2-A
Matrix: Water
Analysis Batch: 300171

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.00	1.23	L3	mg/L		123	85 - 115
Manganese	1.00	1.09		mg/L		109	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 - Dissolved Metals by ICP (Continued)

Lab Sample ID: LCSD 550-299405/3-A
Matrix: Water
Analysis Batch: 300171

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299405

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Iron	1.00	1.20	L3	mg/L		120	85 - 115	2	20	
Manganese	1.00	1.07		mg/L		107	85 - 115	1	20	

Lab Sample ID: 550-201346-4 MS
Matrix: Water
Analysis Batch: 300337

Client Sample ID: CH-CCR-W304-0423
Prep Type: Dissolved
Prep Batch: 299324

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Iron	0.25		1.00	1.36		mg/L		111	70 - 130			
Manganese	3.0		1.00	3.76		mg/L		80	70 - 130			

Lab Sample ID: 550-201346-4 MSD
Matrix: Water
Analysis Batch: 300337

Client Sample ID: CH-CCR-W304-0423
Prep Type: Dissolved
Prep Batch: 299324

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Iron	0.25		1.00	1.37		mg/L		112	70 - 130	1	20	
Manganese	3.0		1.00	3.74		mg/L		78	70 - 130	0	20	

Lab Sample ID: 550-201435-O-1-A MS
Matrix: Water
Analysis Batch: 300171

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 299405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Iron	0.30	L3	1.00	1.59		mg/L		129	70 - 130			
Manganese	ND		1.00	1.11		mg/L		110	70 - 130			

Lab Sample ID: 550-201435-P-1-A MSD
Matrix: Water
Analysis Batch: 300171

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 299405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Iron	0.30	L3	1.00	1.48		mg/L		118	70 - 130	7	20	
Manganese	ND		1.00	1.08		mg/L		107	70 - 130	3	20	

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-299326/1-A
Matrix: Water
Analysis Batch: 300233

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299326

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Beryllium	ND		0.0010	mg/L		05/01/23 09:59	05/12/23 18:46	1
Boron	ND		0.050	mg/L		05/01/23 09:59	05/12/23 18:46	1
Calcium	ND		2.0	mg/L		05/01/23 09:59	05/12/23 18:46	1
Iron	ND		0.10	mg/L		05/01/23 09:59	05/12/23 18:46	1
Magnesium	ND		2.0	mg/L		05/01/23 09:59	05/12/23 18:46	1
Potassium	ND		0.50	mg/L		05/01/23 09:59	05/12/23 18:46	1
Sodium	ND		0.50	mg/L		05/01/23 09:59	05/12/23 18:46	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-299326/1-A
Matrix: Water
Analysis Batch: 301422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299326

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		05/01/23 09:59	06/01/23 04:03	1
Calcium	ND		2.0	mg/L		05/01/23 09:59	06/01/23 04:03	1
Iron	ND		0.10	mg/L		05/01/23 09:59	06/01/23 04:03	1
Magnesium	ND		2.0	mg/L		05/01/23 09:59	06/01/23 04:03	1
Manganese	ND		0.010	mg/L		05/01/23 09:59	06/01/23 04:03	1
Potassium	ND		0.50	mg/L		05/01/23 09:59	06/01/23 04:03	1
Sodium	ND		0.50	mg/L		05/01/23 09:59	06/01/23 04:03	1

Lab Sample ID: MB 550-299326/1-A
Matrix: Water
Analysis Batch: 301855

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299326

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		0.50	mg/L		05/01/23 09:59	06/07/23 13:05	1

Lab Sample ID: LCS 550-299326/2-A
Matrix: Water
Analysis Batch: 300233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.999		mg/L		100	85 - 115
Boron	1.00	1.08		mg/L		108	85 - 115
Calcium	21.0	21.7		mg/L		103	85 - 115
Iron	1.00	1.00		mg/L		100	85 - 115
Magnesium	21.0	21.8		mg/L		104	85 - 115
Potassium	20.0	19.1		mg/L		95	85 - 115
Sodium	20.0	18.6		mg/L		93	85 - 115

Lab Sample ID: LCS 550-299326/2-A
Matrix: Water
Analysis Batch: 301422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.03		mg/L		103	85 - 115
Calcium	21.0	21.2		mg/L		101	85 - 115
Iron	1.00	0.979		mg/L		98	85 - 115
Magnesium	21.0	21.2		mg/L		101	85 - 115
Manganese	1.00	0.987		mg/L		99	85 - 115
Potassium	20.0	19.1		mg/L		95	85 - 115
Sodium	20.0	20.3		mg/L		101	85 - 115

Lab Sample ID: LCS 550-299326/2-A
Matrix: Water
Analysis Batch: 301855

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	20.0	18.3		mg/L		92	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-299326/3-A
Matrix: Water
Analysis Batch: 300233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Beryllium	1.00	1.02		mg/L		102	85 - 115	2	20	
Boron	1.00	1.07		mg/L		107	85 - 115	0	20	
Calcium	21.0	22.0		mg/L		105	85 - 115	2	20	
Iron	1.00	1.02		mg/L		102	85 - 115	2	20	
Magnesium	21.0	22.1		mg/L		105	85 - 115	1	20	
Potassium	20.0	19.3		mg/L		96	85 - 115	1	20	
Sodium	20.0	18.9		mg/L		94	85 - 115	1	20	

Lab Sample ID: LCSD 550-299326/3-A
Matrix: Water
Analysis Batch: 301422

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Boron	1.00	1.03		mg/L		103	85 - 115	0	20	
Calcium	21.0	21.1		mg/L		100	85 - 115	1	20	
Iron	1.00	0.977		mg/L		98	85 - 115	0	20	
Magnesium	21.0	21.0		mg/L		100	85 - 115	1	20	
Manganese	1.00	0.989		mg/L		99	85 - 115	0	20	
Potassium	20.0	18.9		mg/L		94	85 - 115	1	20	
Sodium	20.0	20.1		mg/L		100	85 - 115	1	20	

Lab Sample ID: LCSD 550-299326/3-A
Matrix: Water
Analysis Batch: 301855

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Sodium	20.0	18.6		mg/L		93	85 - 115	1	20	

Lab Sample ID: 550-201346-3 MS
Matrix: Water
Analysis Batch: 300233

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Beryllium	ND		1.00	1.12		mg/L		112	70 - 130	
Boron	0.44		1.00	1.56		mg/L		112	70 - 130	
Calcium	730	M3	21.0	739	M3	mg/L		40	70 - 130	
Iron	0.30		1.00	1.41		mg/L		110	70 - 130	
Magnesium	120		21.0	137	M3	mg/L		99	70 - 130	
Potassium	4.4		20.0	28.2		mg/L		119	70 - 130	

Lab Sample ID: 550-201346-3 MS
Matrix: Water
Analysis Batch: 301422

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Boron	0.43		1.00	1.52		mg/L		108	70 - 130	
Calcium	750	M3	21.0	720	M3	mg/L		-134	70 - 130	
Iron	0.29		1.00	1.32		mg/L		103	70 - 130	
Magnesium	120	M3	21.0	132	M3	mg/L		70	70 - 130	

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-201346-3 MS
Matrix: Water
Analysis Batch: 301422

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Manganese	3.0		1.00	3.74		mg/L		78	70 - 130	
Potassium	7.0		20.0	29.9		mg/L		115	70 - 130	
Sodium	2000	E2 M3	20.0	1930	E2 M3	mg/L		-566	70 - 130	

Lab Sample ID: 550-201346-3 MS
Matrix: Water
Analysis Batch: 301855

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD
Sodium	1800	M3	20.0	1610	E2 M3	mg/L		-731	70 - 130	

Lab Sample ID: 550-201346-3 MSD
Matrix: Water
Analysis Batch: 300233

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	RPD
Beryllium	ND		1.00	1.08		mg/L		108	70 - 130	3	20	
Boron	0.44		1.00	1.50		mg/L		106	70 - 130	4	20	
Calcium	730	M3	21.0	717	M3	mg/L		-63	70 - 130	3	20	
Iron	0.30		1.00	1.37		mg/L		106	70 - 130	3	20	
Magnesium	120		21.0	132	M3	mg/L		76	70 - 130	4	20	
Potassium	4.4		20.0	27.3		mg/L		115	70 - 130	3	20	

Lab Sample ID: 550-201346-3 MSD
Matrix: Water
Analysis Batch: 301422

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	RPD
Boron	0.43		1.00	1.49		mg/L		106	70 - 130	2	20	
Calcium	750	M3	21.0	717	M3	mg/L		-146	70 - 130	0	20	
Iron	0.29		1.00	1.33		mg/L		104	70 - 130	1	20	
Magnesium	120	M3	21.0	131	M3	mg/L		67	70 - 130	1	20	
Manganese	3.0		1.00	3.69		mg/L		73	70 - 130	1	20	
Potassium	7.0		20.0	29.7		mg/L		114	70 - 130	1	20	
Sodium	2000	E2 M3	20.0	1930	E2 M3	mg/L		-591	70 - 130	0	20	

Lab Sample ID: 550-201346-3 MSD
Matrix: Water
Analysis Batch: 301855

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA
Prep Batch: 299326

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit	RPD
Sodium	1800	M3	20.0	1540	E2 M3	mg/L		-1091	70 - 130	5	20	

Lab Sample ID: MB 550-299960/1-A
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299960

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Beryllium	ND		0.0010	mg/L		05/10/23 07:43	05/16/23 06:12	1
Boron	ND		0.050	mg/L		05/10/23 07:43	05/16/23 06:12	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-299960/1-A
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299960

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Calcium	ND		2.0	mg/L		05/10/23 07:43	05/16/23 06:12	1
Magnesium	ND		2.0	mg/L		05/10/23 07:43	05/16/23 06:12	1
Manganese	ND		0.010	mg/L		05/10/23 07:43	05/16/23 06:12	1
Potassium	ND		0.50	mg/L		05/10/23 07:43	05/16/23 06:12	1
Sodium	ND		0.50	mg/L		05/10/23 07:43	05/16/23 06:12	1

Lab Sample ID: MB 550-299960/1-A
Matrix: Water
Analysis Batch: 301421

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299960

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Iron	ND		0.10	mg/L		05/10/23 07:43	06/01/23 03:01	1
Sodium	ND		0.50	mg/L		05/10/23 07:43	06/01/23 03:01	1

Lab Sample ID: LCS 550-299960/2-A
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Beryllium	1.00	1.00		mg/L		100	85 - 115
Boron	1.00	1.03		mg/L		103	85 - 115
Calcium	21.0	19.6		mg/L		94	85 - 115
Magnesium	21.0	19.1		mg/L		91	85 - 115
Manganese	1.00	0.993		mg/L		99	85 - 115
Potassium	20.0	18.2		mg/L		91	85 - 115
Sodium	20.0	18.3		mg/L		92	85 - 115

Lab Sample ID: LCS 550-299960/2-A
Matrix: Water
Analysis Batch: 301421

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Iron	1.00	0.991		mg/L		99	85 - 115
Sodium	20.0	20.2		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-299960/3-A
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Beryllium	1.00	0.994		mg/L		99	85 - 115	1	20
Boron	1.00	1.03		mg/L		103	85 - 115	0	20
Calcium	21.0	19.5		mg/L		93	85 - 115	1	20
Magnesium	21.0	18.9		mg/L		90	85 - 115	1	20
Manganese	1.00	0.990		mg/L		99	85 - 115	0	20
Potassium	20.0	17.9		mg/L		90	85 - 115	1	20
Sodium	20.0	18.2		mg/L		91	85 - 115	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-299960/3-A
Matrix: Water
Analysis Batch: 301421

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Iron	1.00	0.988		mg/L		99	85 - 115	0	20	
Sodium	20.0	20.1		mg/L		101	85 - 115	0	20	

Lab Sample ID: 550-201841-J-1-B MS
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Beryllium	ND		1.00	1.05		mg/L		105	70 - 130			
Boron	0.061		1.00	1.15		mg/L		109	70 - 130			
Calcium	110		21.0	128	M3	mg/L		85	70 - 130			
Magnesium	47		21.0	66.4		mg/L		91	70 - 130			
Manganese	ND		1.00	1.03		mg/L		103	70 - 130			
Potassium	4.7		20.0	24.2		mg/L		97	70 - 130			
Sodium	32		20.0	50.3		mg/L		94	70 - 130			

Lab Sample ID: 550-201841-J-1-B MS
Matrix: Water
Analysis Batch: 301421

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Iron	ND	M1	1.00	19.5	M1	mg/L		1943	70 - 130			
Sodium	32		20.0	51.5		mg/L		95	70 - 130			

Lab Sample ID: 550-201841-J-1-C MSD
Matrix: Water
Analysis Batch: 300338

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Beryllium	ND		1.00	1.05		mg/L		105	70 - 130	0	20	
Boron	0.061		1.00	1.12		mg/L		106	70 - 130	2	20	
Calcium	110		21.0	125	M3	mg/L		73	70 - 130	2	20	
Magnesium	47		21.0	64.9		mg/L		84	70 - 130	2	20	
Manganese	ND		1.00	1.01		mg/L		101	70 - 130	2	20	
Potassium	4.7		20.0	23.9		mg/L		96	70 - 130	1	20	
Sodium	32		20.0	49.3		mg/L		88	70 - 130	2	20	

Lab Sample ID: 550-201841-J-1-C MSD
Matrix: Water
Analysis Batch: 301421

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299960

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Iron	ND	M1	1.00	19.7	M1	mg/L		1969	70 - 130	1	20	
Sodium	32		20.0	51.6		mg/L		96	70 - 130	0	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-610716/1-A
Matrix: Water
Analysis Batch: 611037

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610716

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020	mg/L		05/02/23 08:08	05/03/23 06:09	1

Lab Sample ID: LCS 280-610716/2-A
Matrix: Water
Analysis Batch: 611037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610716

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	0.932		mg/L		93	90 - 112

Lab Sample ID: MB 280-610725/1-A
Matrix: Water
Analysis Batch: 611354

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 610725

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020	mg/L		05/02/23 15:00	05/04/23 15:09	1

Lab Sample ID: LCS 280-610725/2-A
Matrix: Water
Analysis Batch: 611354

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 610725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.01		mg/L		101	90 - 112

Lab Sample ID: 550-201346-23 MS
Matrix: Water
Analysis Batch: 611354

Client Sample ID: CH-CCR-TWX5-0423
Prep Type: Total/NA
Prep Batch: 610725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.22		1.00	1.24		mg/L		102	70 - 130

Lab Sample ID: 550-201346-23 MSD
Matrix: Water
Analysis Batch: 611354

Client Sample ID: CH-CCR-TWX5-0423
Prep Type: Total/NA
Prep Batch: 610725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.22		1.00	1.34		mg/L		112	70 - 130	8	20

Lab Sample ID: 550-201346-25 MS
Matrix: Water
Analysis Batch: 611354

Client Sample ID: CH-CCR-TWX6-0423
Prep Type: Total/NA
Prep Batch: 610725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.23		1.00	1.30		mg/L		108	70 - 130

Lab Sample ID: 550-201346-25 MSD
Matrix: Water
Analysis Batch: 611354

Client Sample ID: CH-CCR-TWX6-0423
Prep Type: Total/NA
Prep Batch: 610725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.23		1.00	1.33		mg/L		110	70 - 130	2	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 280-175726-A-1-B MS
Matrix: Water
Analysis Batch: 611037

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 610716

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	ND		1.00	0.969		mg/L		96	70 - 130

Lab Sample ID: 280-175726-A-1-C MSD
Matrix: Water
Analysis Batch: 611037

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 610716

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	ND		1.00	0.948		mg/L		94	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-334375/1-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 334375

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.00051	mg/L		06/05/23 06:33	06/05/23 09:28	1
Barium	ND	E8	0.00050	0.00019	mg/L		06/05/23 06:33	06/05/23 09:28	1
Cadmium	ND	E8	0.00020	0.000044	mg/L		06/05/23 06:33	06/05/23 09:28	1
Chromium	ND	E8	0.0010	0.00012	mg/L		06/05/23 06:33	06/05/23 09:28	1
Lead	ND	E8	0.00020	0.00012	mg/L		06/05/23 06:33	06/05/23 09:28	1
Molybdenum	ND	E8	0.00050	0.00016	mg/L		06/05/23 06:33	06/05/23 09:28	1
Selenium	ND	E8	0.0010	0.00071	mg/L		06/05/23 06:33	06/05/23 09:28	1
Thallium	ND	E8	0.00020	0.000081	mg/L		06/05/23 06:33	06/05/23 09:28	1
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 06:33	06/05/23 09:28	1
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 06:33	06/05/23 09:28	1

Lab Sample ID: LCS 570-334375/2-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 334375

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0800	0.0885		mg/L		111	85 - 115
Barium	0.0800	0.0848		mg/L		106	85 - 115
Cadmium	0.0800	0.0848		mg/L		106	85 - 115
Chromium	0.0800	0.0842		mg/L		105	85 - 115
Lead	0.0800	0.0841		mg/L		105	85 - 115
Molybdenum	0.0800	0.0851		mg/L		106	85 - 115
Selenium	0.0800	0.0839		mg/L		105	85 - 115
Thallium	0.0800	0.0809		mg/L		101	85 - 115
Arsenic	0.0800	0.0844		mg/L		105	85 - 115
Cobalt	0.0800	0.0825		mg/L		103	85 - 115

Lab Sample ID: LCSD 570-334375/3-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334375

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.0800	0.0904		mg/L		113	85 - 115	2	20
Barium	0.0800	0.0848		mg/L		106	85 - 115	0	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-334375/3-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334375

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Cadmium	0.0800	0.0859		mg/L		107	85 - 115	1	20	
Chromium	0.0800	0.0857		mg/L		107	85 - 115	2	20	
Lead	0.0800	0.0849		mg/L		106	85 - 115	1	20	
Molybdenum	0.0800	0.0866		mg/L		108	85 - 115	2	20	
Selenium	0.0800	0.0875		mg/L		109	85 - 115	4	20	
Thallium	0.0800	0.0828		mg/L		104	85 - 115	2	20	
Arsenic	0.0800	0.0850		mg/L		106	85 - 115	1	20	
Cobalt	0.0800	0.0842		mg/L		105	85 - 115	2	20	

Lab Sample ID: MB 570-334377/1-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Antimony	ND	E8	0.0010	0.00051	mg/L		06/05/23 06:53	06/05/23 12:09	1
Barium	ND	E8	0.00050	0.00019	mg/L		06/05/23 06:53	06/05/23 12:09	1
Cadmium	ND	E8	0.00020	0.000044	mg/L		06/05/23 06:53	06/05/23 12:09	1
Chromium	ND	E8	0.0010	0.00012	mg/L		06/05/23 06:53	06/05/23 12:09	1
Lead	ND	E8	0.00020	0.00012	mg/L		06/05/23 06:53	06/05/23 12:09	1
Molybdenum	ND	E8	0.00050	0.00016	mg/L		06/05/23 06:53	06/05/23 12:09	1
Selenium	ND	E8	0.0010	0.00071	mg/L		06/05/23 06:53	06/05/23 12:09	1
Thallium	ND	E8	0.00020	0.000081	mg/L		06/05/23 06:53	06/05/23 12:09	1
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 06:53	06/05/23 12:09	1
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 06:53	06/05/23 12:09	1

Lab Sample ID: LCS 570-334377/2-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Antimony	0.0800	0.0888		mg/L		111	85 - 115	
Barium	0.0800	0.0841		mg/L		105	85 - 115	
Cadmium	0.0800	0.0835		mg/L		104	85 - 115	
Chromium	0.0800	0.0828		mg/L		103	85 - 115	
Lead	0.0800	0.0811		mg/L		101	85 - 115	
Molybdenum	0.0800	0.0840		mg/L		105	85 - 115	
Selenium	0.0800	0.0851		mg/L		106	85 - 115	
Thallium	0.0800	0.0800		mg/L		100	85 - 115	
Arsenic	0.0800	0.0843		mg/L		105	85 - 115	
Cobalt	0.0800	0.0807		mg/L		101	85 - 115	

Lab Sample ID: LCSD 570-334377/3-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Antimony	0.0800	0.0886		mg/L		111	85 - 115	0	20	
Barium	0.0800	0.0834		mg/L		104	85 - 115	1	20	
Cadmium	0.0800	0.0831		mg/L		104	85 - 115	0	20	

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-334377/3-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.0800	0.0826		mg/L		103	85 - 115	0	20
Lead	0.0800	0.0812		mg/L		101	85 - 115	0	20
Molybdenum	0.0800	0.0841		mg/L		105	85 - 115	0	20
Selenium	0.0800	0.0842		mg/L		105	85 - 115	1	20
Thallium	0.0800	0.0807		mg/L		101	85 - 115	1	20
Arsenic	0.0800	0.0840		mg/L		105	85 - 115	0	20
Cobalt	0.0800	0.0806		mg/L		101	85 - 115	0	20

Lab Sample ID: 570-140417-A-1-B MS
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.0042		0.0800	0.0963		mg/L		115	80 - 120		
Barium	0.18		0.0800	0.251		mg/L		94	80 - 120		
Cadmium	0.000065	E4	0.0800	0.0807		mg/L		101	80 - 120		
Chromium	0.00076	E4	0.0800	0.0807		mg/L		100	80 - 120		
Lead	0.00027		0.0800	0.0780		mg/L		97	80 - 120		
Molybdenum	0.028		0.0800	0.113		mg/L		106	80 - 120		
Selenium	0.0054		0.0800	0.0865		mg/L		101	80 - 120		
Thallium	ND	E8	0.0800	0.0747		mg/L		93	80 - 120		
Arsenic	0.0055		0.0800	0.0872		mg/L		102	80 - 120		
Cobalt	0.0026		0.0800	0.0797		mg/L		96	80 - 120		

Lab Sample ID: 570-140417-A-1-C MSD
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 334377

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.0042		0.0800	0.0988		mg/L		118	80 - 120	3	20
Barium	0.18		0.0800	0.260		mg/L		105	80 - 120	3	20
Cadmium	0.000065	E4	0.0800	0.0829		mg/L		104	80 - 120	3	20
Chromium	0.00076	E4	0.0800	0.0829		mg/L		103	80 - 120	3	20
Lead	0.00027		0.0800	0.0788		mg/L		98	80 - 120	1	20
Molybdenum	0.028		0.0800	0.117		mg/L		111	80 - 120	4	20
Selenium	0.0054		0.0800	0.0870		mg/L		102	80 - 120	1	20
Thallium	ND	E8	0.0800	0.0759		mg/L		95	80 - 120	2	20
Arsenic	0.0055		0.0800	0.0899		mg/L		105	80 - 120	3	20
Cobalt	0.0026		0.0800	0.0827		mg/L		100	80 - 120	4	20

Lab Sample ID: MB 570-334392/1-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 334392

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 08:11	06/05/23 10:46	1
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 08:11	06/05/23 10:46	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 570-334392/2-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 334392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Arsenic	0.0800	0.0833		mg/L		104	85 - 115	
Cobalt	0.0800	0.0811		mg/L		101	85 - 115	

Lab Sample ID: LCSD 570-334392/3-A
Matrix: Water
Analysis Batch: 334514

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334392

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD	Limit	
Arsenic	0.0800	0.0840		mg/L		105	85 - 115	1	20	
Cobalt	0.0800	0.0821		mg/L		103	85 - 115	1	20	

Lab Sample ID: MB 570-334473/1-A
Matrix: Water
Analysis Batch: 334555

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 334473

Analyte	MB MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier					Time	Time	Time	Time	
Arsenic	ND	E8	0.00020	0.000083	mg/L		06/05/23 10:53	06/05/23 13:31	06/05/23 13:31	1	
Cobalt	ND	E8	0.00020	0.000039	mg/L		06/05/23 10:53	06/05/23 13:31	06/05/23 13:31	1	

Lab Sample ID: LCS 570-334473/2-A
Matrix: Water
Analysis Batch: 334555

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 334473

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Arsenic	0.0800	0.0831		mg/L		104	85 - 115	
Cobalt	0.0800	0.0807		mg/L		101	85 - 115	

Lab Sample ID: LCSD 570-334473/3-A
Matrix: Water
Analysis Batch: 334555

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 334473

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD	Limit	
Arsenic	0.0800	0.0822		mg/L		103	85 - 115	1	20	
Cobalt	0.0800	0.0803		mg/L		100	85 - 115	0	20	

Lab Sample ID: 550-201346-8 MS
Matrix: Water
Analysis Batch: 334514

Client Sample ID: CH-CCR-FD03-0423
Prep Type: Dissolved
Prep Batch: 334392

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Arsenic	0.0017	E4	0.0800	0.0837		mg/L		103	80 - 120	
Cobalt	0.064		0.0800	0.146		mg/L		103	80 - 120	

Lab Sample ID: 550-201346-8 MSD
Matrix: Water
Analysis Batch: 334514

Client Sample ID: CH-CCR-FD03-0423
Prep Type: Dissolved
Prep Batch: 334392

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD	Limit	
Arsenic	0.0017	E4	0.0800	0.0813		mg/L		100	80 - 120	3	20	
Cobalt	0.064		0.0800	0.141		mg/L		97	80 - 120	4	20	

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: 550-201346-10 MS
Matrix: Water
Analysis Batch: 334514

Client Sample ID: CH-CCR-MW77A-0423
Prep Type: Dissolved
Prep Batch: 334392

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Arsenic	0.0012	E4	0.0800	0.0799		mg/L		98	80 - 120	
Cobalt	0.0047		0.0800	0.0776		mg/L		91	80 - 120	

Lab Sample ID: 550-201346-10 MSD
Matrix: Water
Analysis Batch: 334514

Client Sample ID: CH-CCR-MW77A-0423
Prep Type: Dissolved
Prep Batch: 334392

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Arsenic	0.0012	E4	0.0800	0.0803		mg/L		99	80 - 120	0	20
Cobalt	0.0047		0.0800	0.0772		mg/L		91	80 - 120	1	20

Lab Sample ID: 570-140424-D-1-B MS
Matrix: Water
Analysis Batch: 334555

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 334473

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Arsenic	0.00061		0.0800	0.0787		mg/L		98	80 - 120	
Cobalt	0.0019		0.0800	0.0731		mg/L		89	80 - 120	

Lab Sample ID: 570-140424-D-1-C MSD
Matrix: Water
Analysis Batch: 334555

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 334473

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Arsenic	0.00061		0.0800	0.0791		mg/L		98	80 - 120	1	20
Cobalt	0.0019		0.0800	0.0737		mg/L		90	80 - 120	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-299369/1-A
Matrix: Water
Analysis Batch: 299393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 299369

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		05/01/23 16:38	05/01/23 20:58	1

Lab Sample ID: LCS 550-299369/2-A
Matrix: Water
Analysis Batch: 299393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 299369

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Mercury	0.00500	0.00453		mg/L		91	85 - 115	

Lab Sample ID: LCSD 550-299369/3-A
Matrix: Water
Analysis Batch: 299393

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 299369

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec		RPD
		Result	Qualifier				Limits	RPD	Limit
Mercury	0.00500	0.00466		mg/L		93	85 - 115	3	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-200322-A-1-C MS
Matrix: Water
Analysis Batch: 299393

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 299369

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND	M2	0.00500	0.00367		mg/L		73	70 - 130

Lab Sample ID: 550-200322-A-1-D MSD
Matrix: Water
Analysis Batch: 299393

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 299369

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND	M2	0.00500	0.00334	M2	mg/L		67	70 - 130	9	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-299554/138
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			05/03/23 13:39	1

Lab Sample ID: MB 550-299554/99
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			05/03/23 12:41	1

Lab Sample ID: LCS 550-299554/100
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.974		mg/L		97	90 - 110

Lab Sample ID: LCS 550-299554/139
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.962		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-299554/101
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.984		mg/L		98	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCSD 550-299554/140
Matrix: Water
Analysis Batch: 299554

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.960		mg/L		96	90 - 110	0	20

Lab Sample ID: 550-201346-17 MS
Matrix: Water
Analysis Batch: 299554

Client Sample ID: CH-CCR-Petroglyph-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.079	M2	1.00	0.935	M2	mg/L		86	90 - 110

Lab Sample ID: 550-201346-17 MSD
Matrix: Water
Analysis Batch: 299554

Client Sample ID: CH-CCR-Petroglyph-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.079	M2	1.00	1.02		mg/L		94	90 - 110	8	20

Lab Sample ID: 550-201346-37 MS
Matrix: Water
Analysis Batch: 299554

Client Sample ID: CH-CCR-GeronimoC-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		1.00	0.901		mg/L		90	90 - 110

Lab Sample ID: 550-201346-37 MSD
Matrix: Water
Analysis Batch: 299554

Client Sample ID: CH-CCR-GeronimoC-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		1.00	0.988		mg/L		99	90 - 110	9	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-611298/23
Matrix: Water
Analysis Batch: 611298

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			05/04/23 11:05	1

Lab Sample ID: LCS 280-611298/21
Matrix: Water
Analysis Batch: 611298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.03		mg/L		101	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCSD 280-611298/22
Matrix: Water
Analysis Batch: 611298

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	5.00	5.07		mg/L		101	90 - 110	1	10

Lab Sample ID: MB 280-611441/60
Matrix: Water
Analysis Batch: 611441

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			05/05/23 12:20	1

Lab Sample ID: LCS 280-611441/59
Matrix: Water
Analysis Batch: 611441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.76		mg/L		95	90 - 110

Lab Sample ID: 550-201346-3 MS
Matrix: Water
Analysis Batch: 611441

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	4.20		mg/L		105	90 - 110

Lab Sample ID: 550-201346-3 MSD
Matrix: Water
Analysis Batch: 611441

Client Sample ID: CH-CCR-W304-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.98		mg/L		99	90 - 110	6	10

Lab Sample ID: 550-201346-23 MS
Matrix: Water
Analysis Batch: 611441

Client Sample ID: CH-CCR-TWX5-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	4.05		mg/L		101	90 - 110

Lab Sample ID: 550-201346-23 MSD
Matrix: Water
Analysis Batch: 611441

Client Sample ID: CH-CCR-TWX5-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	4.09		mg/L		102	90 - 110	1	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-299402/4
Matrix: Water
Analysis Batch: 299402

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			05/01/23 15:13	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/01/23 15:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/01/23 15:13	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/01/23 15:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/01/23 15:13	1

Lab Sample ID: LCS 550-299402/3
Matrix: Water
Analysis Batch: 299402

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	252		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-299402/12
Matrix: Water
Analysis Batch: 299402

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110	2	20

Lab Sample ID: 550-201346-5 DU
Matrix: Water
Analysis Batch: 299402

Client Sample ID: CH-CCR-W307R-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	120		121		mg/L		0.1	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	120		121		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: MB 550-299601/4
Matrix: Water
Analysis Batch: 299601

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			05/03/23 15:48	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			05/03/23 15:48	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/03/23 15:48	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			05/03/23 15:48	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			05/03/23 15:48	1

Lab Sample ID: LCS 550-299601/3
Matrix: Water
Analysis Batch: 299601

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	251		mg/L		100	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-299601/16
Matrix: Water
Analysis Batch: 299601

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	247		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-201346-25 DU
Matrix: Water
Analysis Batch: 299601

Client Sample ID: CH-CCR-TWX6-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	75		75.2		mg/L		0.1	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	75		75.2		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-299237/1
Matrix: Water
Analysis Batch: 299237

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/28/23 15:21	1

Lab Sample ID: LCS 550-299237/2
Matrix: Water
Analysis Batch: 299237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	972		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-299237/3
Matrix: Water
Analysis Batch: 299237

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	936		mg/L		94	90 - 110	4	10

Lab Sample ID: 550-201221-E-40 DU
Matrix: Water
Analysis Batch: 299237

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3600		3560		mg/L		0.2	10

Lab Sample ID: MB 550-299238/1
Matrix: Water
Analysis Batch: 299238

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/28/23 15:24	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-299238/2
Matrix: Water
Analysis Batch: 299238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	896		mg/L		90	90 - 110

Lab Sample ID: LCSD 550-299238/3
Matrix: Water
Analysis Batch: 299238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	896		mg/L		90	90 - 110	0	10

Lab Sample ID: 550-201346-11 DU
Matrix: Water
Analysis Batch: 299238

Client Sample ID: CH-CCR-MW78A-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	8000		7960		mg/L		0.3	10

Lab Sample ID: MB 550-299475/1
Matrix: Water
Analysis Batch: 299475

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			05/02/23 18:03	1

Lab Sample ID: LCS 550-299475/2
Matrix: Water
Analysis Batch: 299475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1050		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-299475/3
Matrix: Water
Analysis Batch: 299475

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1050		mg/L		105	90 - 110	1	10

Lab Sample ID: 550-201368-H-1 DU
Matrix: Water
Analysis Batch: 299475

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	690		698		mg/L		0.6	10

Lab Sample ID: MB 550-299557/1
Matrix: Water
Analysis Batch: 299557

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	316	B1	20	mg/L			05/03/23 15:19	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 550-299557/2
Matrix: Water
Analysis Batch: 299557

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-299557/3
Matrix: Water
Analysis Batch: 299557

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1050		mg/L		105	90 - 110	9	10

Lab Sample ID: 550-201452-A-1 DU
Matrix: Water
Analysis Batch: 299557

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	710	B1	708	B1	mg/L		0.3	10

Lab Sample ID: MB 550-299558/1
Matrix: Water
Analysis Batch: 299558

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			05/03/23 15:31	1

Lab Sample ID: LCS 550-299558/2
Matrix: Water
Analysis Batch: 299558

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1100		mg/L		110	90 - 110

Lab Sample ID: LCSD 550-299558/3
Matrix: Water
Analysis Batch: 299558

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1100		mg/L		110	90 - 110	0	10

Lab Sample ID: 550-201346-19 DU
Matrix: Water
Analysis Batch: 299558

Client Sample ID: CH-CCR-TannerWash-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7900		7830		mg/L		1	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-299497/13
Matrix: Water
Analysis Batch: 299497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299497/25
Matrix: Water
Analysis Batch: 299497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299497/37
Matrix: Water
Analysis Batch: 299497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299497/49
Matrix: Water
Analysis Batch: 299497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: 550-201269-A-2 DU
Matrix: Water
Analysis Batch: 299497

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4		7.4		SU		0.1	5
Temperature	13.6		13.6		Degrees C		0	

Lab Sample ID: 550-201346-13 DU
Matrix: Water
Analysis Batch: 299497

Client Sample ID: CH-CCR-BAP-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.3	H5	8.4	H5	SU		0.5	5
Temperature	15.2	H5 T5	15.5	H5	Degrees C		2	

Lab Sample ID: 550-201346-33 DU
Matrix: Water
Analysis Batch: 299497

Client Sample ID: CH-CCR-EB01-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.1	H5	6.1		SU		0.2	5
Temperature	14.0	H5 T5	14.0		Degrees C		0	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-299426/63
Matrix: Water
Analysis Batch: 299426

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			05/02/23 05:37	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			05/02/23 05:37	1
Total Organic Carbon - Quad	ND		0.50	mg/L			05/02/23 05:37	1

Lab Sample ID: LCS 550-299426/64
Matrix: Water
Analysis Batch: 299426

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Duplicates	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-299426/65
Matrix: Water
Analysis Batch: 299426

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	18.4		mg/L		92	90 - 110	0	20
Total Organic Carbon - Duplicates	20.0	18.4		mg/L		92	90 - 110	0	20
Total Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110	0	20

Lab Sample ID: 550-201435-C-1 MS
Matrix: Water
Analysis Batch: 299426

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	ND	M2	20.0	18.0	M2	mg/L		89	90 - 110
Total Organic Carbon - Duplicates	ND	M2	20.0	18.0		mg/L		90	90 - 110
Total Organic Carbon - Quad	ND	M2	20.0	18.0	M2	mg/L		89	90 - 110

Lab Sample ID: 550-201435-C-1 MSD
Matrix: Water
Analysis Batch: 299426

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	ND	M2	20.0	17.7	M2	mg/L		87	90 - 110	1	20
Total Organic Carbon - Duplicates	ND	M2	20.0	17.7	M2	mg/L		89	90 - 110	1	20
Total Organic Carbon - Quad	ND	M2	20.0	17.7	M2	mg/L		87	90 - 110	1	20

Lab Sample ID: MB 550-299691/34
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			05/04/23 21:49	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			05/04/23 21:49	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 550-299691/34
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		0.50	mg/L			05/04/23 21:49	1

Lab Sample ID: MB 550-299691/5
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			05/04/23 14:50	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			05/04/23 14:50	1
Total Organic Carbon - Quad	ND		0.50	mg/L			05/04/23 14:50	1

Lab Sample ID: LCS 550-299691/35
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	18.9		mg/L		95	90 - 110
Total Organic Carbon - Duplicates	20.0	18.9		mg/L		95	90 - 110
Total Organic Carbon - Quad	20.0	18.9		mg/L		95	90 - 110

Lab Sample ID: LCS 550-299691/6
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	18.1		mg/L		90	90 - 110
Total Organic Carbon - Duplicates	20.0	18.1		mg/L		90	90 - 110
Total Organic Carbon - Quad	20.0	18.1		mg/L		90	90 - 110

Lab Sample ID: LCSD 550-299691/36
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.1		mg/L		95	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		95	90 - 110	1	20
Total Organic Carbon - Quad	20.0	19.1		mg/L		95	90 - 110	1	20

Lab Sample ID: LCSD 550-299691/7
Matrix: Water
Analysis Batch: 299691

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	18.3		mg/L		92	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	18.3		mg/L		92	90 - 110	1	20
Total Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-201346-25 MS
Matrix: Water
Analysis Batch: 299691

Client Sample ID: CH-CCR-TWX6-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	0.97	M2	20.0	19.7		mg/L		93	90 - 110
Total Organic Carbon - Duplicates	0.97	M2	20.0	19.7		mg/L		93	90 - 110
Total Organic Carbon - Quad	0.97	M2	20.0	19.7		mg/L		93	90 - 110

Lab Sample ID: 550-201346-25 MSD
Matrix: Water
Analysis Batch: 299691

Client Sample ID: CH-CCR-TWX6-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	0.97	M2	20.0	18.6	M2	mg/L		88	90 - 110	5	20
Total Organic Carbon - Duplicates	0.97	M2	20.0	18.6	M2	mg/L		88	90 - 110	5	20
Total Organic Carbon - Quad	0.97	M2	20.0	18.6	M2	mg/L		88	90 - 110	5	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-299527/34
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			05/02/23 21:44	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			05/02/23 21:44	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			05/02/23 21:44	1

Lab Sample ID: MB 550-299527/5
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			05/02/23 14:46	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			05/02/23 14:46	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			05/02/23 14:46	1

Lab Sample ID: LCS 550-299527/35
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.3		mg/L		91	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		91	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		91	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 550-299527/6
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-299527/36
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.3		mg/L		91	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		91	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		91	90 - 110	0	20

Lab Sample ID: LCSD 550-299527/7
Matrix: Water
Analysis Batch: 299527

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.3		mg/L		91	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		91	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		91	90 - 110	1	20

Lab Sample ID: 550-201346-2 MS
Matrix: Water
Analysis Batch: 299527

Client Sample ID: CH-CCR-W302-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	0.87	T5 M2	20.0	18.4	M2	mg/L		87	90 - 110
Dissolved Organic Carbon - Duplicate	0.87	T5 M2	20.0	18.4	M2	mg/L		87	90 - 110
Dissolved Organic Carbon - Quad	0.87	T5 M2	20.0	18.4	M2	mg/L		87	90 - 110

Lab Sample ID: 550-201346-2 MSD
Matrix: Water
Analysis Batch: 299527

Client Sample ID: CH-CCR-W302-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.87	T5 M2	20.0	18.0	M2	mg/L		86	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	0.87	T5 M2	20.0	18.0	M2	mg/L		86	90 - 110	2	20
Dissolved Organic Carbon - Quad	0.87	T5 M2	20.0	18.0	M2	mg/L		86	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-201346-42 MS
Matrix: Water
Analysis Batch: 299527

Client Sample ID: CH-CCR-HuntB-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	2.0	T5 M2	20.0	18.8	M2	mg/L		84	90 - 110
Dissolved Organic Carbon - Duplicate	2.0	T5 M2	20.0	18.8	M2	mg/L		84	90 - 110
Dissolved Organic Carbon - Quad	2.0	T5 M2	20.0	18.8	M2	mg/L		84	90 - 110

Lab Sample ID: 550-201346-42 MSD
Matrix: Water
Analysis Batch: 299527

Client Sample ID: CH-CCR-HuntB-0423
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.0	T5 M2	20.0	17.3	M2	mg/L		77	90 - 110	8	20
Dissolved Organic Carbon - Duplicate	2.0	T5 M2	20.0	17.3	M2	mg/L		77	90 - 110	8	20
Dissolved Organic Carbon - Quad	2.0	T5 M2	20.0	17.3	M2	mg/L		77	90 - 110	8	20

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 300294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	300.0	
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	300.0	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	300.0	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	300.0	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	300.0	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	300.0	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	300.0	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	300.0	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	300.0	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	300.0	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	300.0	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	300.0	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	300.0	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	300.0	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	300.0	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	300.0	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	300.0	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	300.0	
MB 550-300294/2	Method Blank	Total/NA	Water	300.0	
LCS 550-300294/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-300294/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201948-A-1 MS ^20	Matrix Spike	Total/NA	Water	300.0	
550-201948-A-1 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 300296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	300.0	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	300.0	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	300.0	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	300.0	
MB 550-300296/2	Method Blank	Total/NA	Water	300.0	
LCS 550-300296/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-300296/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-202209-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-202209-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 300390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	300.0	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	300.0	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	300.0	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	300.0	
MB 550-300390/2	Method Blank	Total/NA	Water	300.0	
LCS 550-300390/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-300390/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201562-A-24 MS ^5000	Matrix Spike	Total/NA	Water	300.0	
550-201562-A-24 MSD ^5000	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 300393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC (Continued)

Analysis Batch: 300393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	300.0	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	300.0	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	300.0	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	300.0	
MB 550-300393/2	Method Blank	Total/NA	Water	300.0	
LCS 550-300393/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-300393/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-202247-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-202247-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 300394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	300.0	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	300.0	
MB 550-300394/2	Method Blank	Total/NA	Water	300.0	
LCS 550-300394/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-300394/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-201562-E-11 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-201562-E-11 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 299324

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-2	CH-CCR-W302-0423	Dissolved	Water	200.7	
550-201346-4	CH-CCR-W304-0423	Dissolved	Water	200.7	
550-201346-6	CH-CCR-W307R-0423	Dissolved	Water	200.7	
550-201346-8	CH-CCR-FD03-0423	Dissolved	Water	200.7	
550-201346-10	CH-CCR-MW77A-0423	Dissolved	Water	200.7	
550-201346-12	CH-CCR-MW78A-0423	Dissolved	Water	200.7	
550-201346-14	CH-CCR-BAP-0423	Dissolved	Water	200.7	
550-201346-16	CH-CCR-BAPTD-0423	Dissolved	Water	200.7	
550-201346-18	CH-CCR-Petroglyph-0423	Dissolved	Water	200.7	
550-201346-20	CH-CCR-TannerWash-0423	Dissolved	Water	200.7	
550-201346-22	CH-CCR-TWX3-0423	Dissolved	Water	200.7	
550-201346-24	CH-CCR-TWX5-0423	Dissolved	Water	200.7	
550-201346-26	CH-CCR-TWX6-0423	Dissolved	Water	200.7	
550-201346-28	CH-CCR-TWX7-0423	Dissolved	Water	200.7	
550-201346-30	CH-CCR-TWX9-0423	Dissolved	Water	200.7	
550-201346-32	CH-CCR-TWX10-0423	Dissolved	Water	200.7	
550-201346-34	CH-CCR-EB01-0423	Dissolved	Water	200.7	
550-201346-36	CH-CCR-FAP-0423	Dissolved	Water	200.7	
550-201346-38	CH-CCR-GeronimoC-0423	Dissolved	Water	200.7	
550-201346-40	CH-CCR-GeronimoD-0423	Dissolved	Water	200.7	
MB 550-299324/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-299324/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-299324/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201346-4 MS	CH-CCR-W304-0423	Dissolved	Water	200.7	
550-201346-4 MSD	CH-CCR-W304-0423	Dissolved	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals

Prep Batch: 299326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	200.7	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	200.7	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	200.7	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7	
MB 550-299326/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-299326/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-299326/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201346-3 MS	CH-CCR-W304-0423	Total/NA	Water	200.7	
550-201346-3 MSD	CH-CCR-W304-0423	Total/NA	Water	200.7	

Prep Batch: 299369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	245.1	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	245.1	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	245.1	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	245.1	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	245.1	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	245.1	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	245.1	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	245.1	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	245.1	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	245.1	
MB 550-299369/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-299369/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-299369/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-200322-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-200322-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 299393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	245.1	299369
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	245.1	299369
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	245.1	299369
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	245.1	299369
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	245.1	299369

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 299393 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	245.1	299369
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	245.1	299369
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	245.1	299369
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	245.1	299369
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	245.1	299369
MB 550-299369/1-A	Method Blank	Total/NA	Water	245.1	299369
LCS 550-299369/2-A	Lab Control Sample	Total/NA	Water	245.1	299369
LCSD 550-299369/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	299369
550-200322-A-1-C MS	Matrix Spike	Total/NA	Water	245.1	299369
550-200322-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	299369

Prep Batch: 299405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-42	CH-CCR-HuntB-0423	Dissolved	Water	200.7	
MB 550-299405/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-299405/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-299405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201435-O-1-A MS	Matrix Spike	Dissolved	Water	200.7	
550-201435-P-1-A MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Prep Batch: 299960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	200.7	
MB 550-299960/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-299960/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-299960/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-201841-J-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-201841-J-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 300171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-42	CH-CCR-HuntB-0423	Dissolved	Water	200.7	299405
MB 550-299405/1-A	Method Blank	Total/NA	Water	200.7	299405
LCS 550-299405/2-A	Lab Control Sample	Total/NA	Water	200.7	299405
LCSD 550-299405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	299405
550-201435-O-1-A MS	Matrix Spike	Dissolved	Water	200.7	299405
550-201435-P-1-A MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	299405

Analysis Batch: 300233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	299326

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 300233 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7 Rev 4.4	299326
MB 550-299326/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	299326
LCS 550-299326/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	299326
LCSD 550-299326/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MS	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MSD	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326

Analysis Batch: 300337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-2	CH-CCR-W302-0423	Dissolved	Water	200.7	299324
550-201346-4	CH-CCR-W304-0423	Dissolved	Water	200.7	299324
550-201346-6	CH-CCR-W307R-0423	Dissolved	Water	200.7	299324
550-201346-8	CH-CCR-FD03-0423	Dissolved	Water	200.7	299324
550-201346-10	CH-CCR-MW77A-0423	Dissolved	Water	200.7	299324
550-201346-12	CH-CCR-MW78A-0423	Dissolved	Water	200.7	299324
550-201346-14	CH-CCR-BAP-0423	Dissolved	Water	200.7	299324
550-201346-16	CH-CCR-BAPTD-0423	Dissolved	Water	200.7	299324
550-201346-18	CH-CCR-Petroglyph-0423	Dissolved	Water	200.7	299324
550-201346-20	CH-CCR-TannerWash-0423	Dissolved	Water	200.7	299324
550-201346-22	CH-CCR-TWX3-0423	Dissolved	Water	200.7	299324
550-201346-24	CH-CCR-TWX5-0423	Dissolved	Water	200.7	299324
550-201346-26	CH-CCR-TWX6-0423	Dissolved	Water	200.7	299324
550-201346-28	CH-CCR-TWX7-0423	Dissolved	Water	200.7	299324
550-201346-30	CH-CCR-TWX9-0423	Dissolved	Water	200.7	299324
550-201346-32	CH-CCR-TWX10-0423	Dissolved	Water	200.7	299324
550-201346-34	CH-CCR-EB01-0423	Dissolved	Water	200.7	299324
550-201346-38	CH-CCR-GeronimoC-0423	Dissolved	Water	200.7	299324
550-201346-40	CH-CCR-GeronimoD-0423	Dissolved	Water	200.7	299324
MB 550-299324/1-A	Method Blank	Total/NA	Water	200.7	299324
LCS 550-299324/2-A	Lab Control Sample	Total/NA	Water	200.7	299324
LCSD 550-299324/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	299324
550-201346-4 MS	CH-CCR-W304-0423	Dissolved	Water	200.7	299324
550-201346-4 MSD	CH-CCR-W304-0423	Dissolved	Water	200.7	299324

Analysis Batch: 300338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	200.7 Rev 4.4	299960
MB 550-299960/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	299960
LCS 550-299960/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	299960
LCSD 550-299960/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	299960
550-201841-J-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	299960
550-201841-J-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	299960

Analysis Batch: 301421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	200.7 Rev 4.4	299960

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 301421 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-299960/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	299960
LCS 550-299960/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	299960
LCSD 550-299960/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	299960
550-201841-J-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	299960
550-201841-J-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	299960

Analysis Batch: 301422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7 Rev 4.4	299326
MB 550-299326/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	299326
LCS 550-299326/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	299326
LCSD 550-299326/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MS	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MSD	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326

Analysis Batch: 301423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-36	CH-CCR-FAP-0423	Dissolved	Water	200.7	299324

Analysis Batch: 301855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7 Rev 4.4	299326

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 301855 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7 Rev 4.4	299326
MB 550-299326/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	299326
LCS 550-299326/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	299326
LCSD 550-299326/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MS	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326
550-201346-3 MSD	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	299326

Analysis Batch: 301884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7 Rev 4.4	299326

Prep Batch: 334375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total Recoverable	Water	200.8	
550-201346-3	CH-CCR-W304-0423	Total Recoverable	Water	200.8	
550-201346-5	CH-CCR-W307R-0423	Total Recoverable	Water	200.8	
550-201346-7	CH-CCR-FD03-0423	Total Recoverable	Water	200.8	
550-201346-10	CH-CCR-MW77A-0423	Total Recoverable	Water	200.8	
550-201346-11	CH-CCR-MW78A-0423	Total Recoverable	Water	200.8	
550-201346-13	CH-CCR-BAP-0423	Total Recoverable	Water	200.8	
550-201346-15	CH-CCR-BAPTD-0423	Total Recoverable	Water	200.8	
550-201346-17	CH-CCR-Petroglyph-0423	Total Recoverable	Water	200.8	
550-201346-19	CH-CCR-TannerWash-0423	Total Recoverable	Water	200.8	
550-201346-21	CH-CCR-TWX3-0423	Total Recoverable	Water	200.8	
550-201346-23	CH-CCR-TWX5-0423	Total Recoverable	Water	200.8	
550-201346-25	CH-CCR-TWX6-0423	Total Recoverable	Water	200.8	
550-201346-27	CH-CCR-TWX7-0423	Total Recoverable	Water	200.8	
550-201346-29	CH-CCR-TWX9-0423	Total Recoverable	Water	200.8	
550-201346-33	CH-CCR-EB01-0423	Total Recoverable	Water	200.8	
550-201346-35	CH-CCR-FAP-0423	Total Recoverable	Water	200.8	
550-201346-37	CH-CCR-GeronimoC-0423	Total Recoverable	Water	200.8	
550-201346-41	CH-CCR-HuntB-0423	Total Recoverable	Water	200.8	
MB 570-334375/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-334375/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-334375/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	

Prep Batch: 334377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-31	CH-CCR-TWX10-0423	Total Recoverable	Water	200.8	
550-201346-39	CH-CCR-GeronimoD-0423	Total Recoverable	Water	200.8	
MB 570-334377/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-334377/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-334377/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-140417-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 334377 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
570-140417-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Prep Batch: 334392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Dissolved	Water	200.8	
550-201346-3	CH-CCR-W304-0423	Dissolved	Water	200.8	
550-201346-5	CH-CCR-W307R-0423	Dissolved	Water	200.8	
550-201346-7	CH-CCR-FD03-0423	Dissolved	Water	200.8	
550-201346-10	CH-CCR-MW77A-0423	Dissolved	Water	200.8	
550-201346-11	CH-CCR-MW78A-0423	Dissolved	Water	200.8	
550-201346-13	CH-CCR-BAP-0423	Dissolved	Water	200.8	
550-201346-15	CH-CCR-BAPTD-0423	Dissolved	Water	200.8	
550-201346-17	CH-CCR-Petroglyph-0423	Dissolved	Water	200.8	
550-201346-19	CH-CCR-TannerWash-0423	Dissolved	Water	200.8	
550-201346-21	CH-CCR-TWX3-0423	Dissolved	Water	200.8	
550-201346-23	CH-CCR-TWX5-0423	Dissolved	Water	200.8	
550-201346-25	CH-CCR-TWX6-0423	Dissolved	Water	200.8	
550-201346-27	CH-CCR-TWX7-0423	Dissolved	Water	200.8	
550-201346-29	CH-CCR-TWX9-0423	Dissolved	Water	200.8	
550-201346-31	CH-CCR-TWX10-0423	Dissolved	Water	200.8	
550-201346-33	CH-CCR-EB01-0423	Dissolved	Water	200.8	
550-201346-35	CH-CCR-FAP-0423	Dissolved	Water	200.8	
550-201346-37	CH-CCR-GeronimoC-0423	Dissolved	Water	200.8	
550-201346-39	CH-CCR-GeronimoD-0423	Dissolved	Water	200.8	
MB 570-334392/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-334392/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-334392/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
550-201346-8 MS	CH-CCR-FD03-0423	Dissolved	Water	200.8	
550-201346-8 MSD	CH-CCR-FD03-0423	Dissolved	Water	200.8	
550-201346-10 MS	CH-CCR-MW77A-0423	Dissolved	Water	200.8	
550-201346-10 MSD	CH-CCR-MW77A-0423	Dissolved	Water	200.8	

Prep Batch: 334473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-41	CH-CCR-HuntB-0423	Dissolved	Water	200.8	
MB 570-334473/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-334473/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-334473/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
570-140424-D-1-B MS	Matrix Spike	Dissolved	Water	200.8	
570-140424-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

Analysis Batch: 334506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-5	CH-CCR-W307R-0423	Dissolved	Water	200.8	334392
550-201346-11	CH-CCR-MW78A-0423	Dissolved	Water	200.8	334392
550-201346-13	CH-CCR-BAP-0423	Dissolved	Water	200.8	334392
550-201346-15	CH-CCR-BAPTD-0423	Dissolved	Water	200.8	334392

Analysis Batch: 334514

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Dissolved	Water	200.8	334392

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 334514 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total Recoverable	Water	200.8	334375
550-201346-3	CH-CCR-W304-0423	Dissolved	Water	200.8	334392
550-201346-3	CH-CCR-W304-0423	Total Recoverable	Water	200.8	334375
550-201346-5	CH-CCR-W307R-0423	Total Recoverable	Water	200.8	334375
550-201346-7	CH-CCR-FD03-0423	Dissolved	Water	200.8	334392
550-201346-7	CH-CCR-FD03-0423	Total Recoverable	Water	200.8	334375
550-201346-10	CH-CCR-MW77A-0423	Dissolved	Water	200.8	334392
550-201346-10	CH-CCR-MW77A-0423	Total Recoverable	Water	200.8	334375
550-201346-11	CH-CCR-MW78A-0423	Total Recoverable	Water	200.8	334375
550-201346-13	CH-CCR-BAP-0423	Total Recoverable	Water	200.8	334375
550-201346-15	CH-CCR-BAPTD-0423	Total Recoverable	Water	200.8	334375
550-201346-17	CH-CCR-Petroglyph-0423	Dissolved	Water	200.8	334392
550-201346-17	CH-CCR-Petroglyph-0423	Total Recoverable	Water	200.8	334375
550-201346-19	CH-CCR-TannerWash-0423	Dissolved	Water	200.8	334392
550-201346-19	CH-CCR-TannerWash-0423	Total Recoverable	Water	200.8	334375
550-201346-21	CH-CCR-TWX3-0423	Dissolved	Water	200.8	334392
550-201346-21	CH-CCR-TWX3-0423	Total Recoverable	Water	200.8	334375
550-201346-23	CH-CCR-TWX5-0423	Dissolved	Water	200.8	334392
550-201346-23	CH-CCR-TWX5-0423	Total Recoverable	Water	200.8	334375
550-201346-25	CH-CCR-TWX6-0423	Dissolved	Water	200.8	334392
550-201346-25	CH-CCR-TWX6-0423	Total Recoverable	Water	200.8	334375
550-201346-27	CH-CCR-TWX7-0423	Dissolved	Water	200.8	334392
550-201346-27	CH-CCR-TWX7-0423	Total Recoverable	Water	200.8	334375
550-201346-29	CH-CCR-TWX9-0423	Dissolved	Water	200.8	334392
550-201346-29	CH-CCR-TWX9-0423	Total Recoverable	Water	200.8	334375
550-201346-31	CH-CCR-TWX10-0423	Dissolved	Water	200.8	334392
550-201346-31	CH-CCR-TWX10-0423	Total Recoverable	Water	200.8	334377
550-201346-33	CH-CCR-EB01-0423	Dissolved	Water	200.8	334392
550-201346-33	CH-CCR-EB01-0423	Total Recoverable	Water	200.8	334375
550-201346-35	CH-CCR-FAP-0423	Dissolved	Water	200.8	334392
550-201346-35	CH-CCR-FAP-0423	Total Recoverable	Water	200.8	334375
550-201346-37	CH-CCR-GeronimoC-0423	Dissolved	Water	200.8	334392
550-201346-37	CH-CCR-GeronimoC-0423	Total Recoverable	Water	200.8	334375
550-201346-39	CH-CCR-GeronimoD-0423	Dissolved	Water	200.8	334392
550-201346-39	CH-CCR-GeronimoD-0423	Total Recoverable	Water	200.8	334377
550-201346-41	CH-CCR-HuntB-0423	Total Recoverable	Water	200.8	334375
MB 570-334375/1-A	Method Blank	Total Recoverable	Water	200.8	334375
MB 570-334377/1-A	Method Blank	Total Recoverable	Water	200.8	334377
MB 570-334392/1-A	Method Blank	Total Recoverable	Water	200.8	334392
LCS 570-334375/2-A	Lab Control Sample	Total Recoverable	Water	200.8	334375
LCS 570-334377/2-A	Lab Control Sample	Total Recoverable	Water	200.8	334377
LCS 570-334392/2-A	Lab Control Sample	Total Recoverable	Water	200.8	334392
LCSD 570-334375/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	334375
LCSD 570-334377/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	334377
LCSD 570-334392/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	334392
550-201346-8 MS	CH-CCR-FD03-0423	Dissolved	Water	200.8	334392
550-201346-8 MSD	CH-CCR-FD03-0423	Dissolved	Water	200.8	334392
550-201346-10 MS	CH-CCR-MW77A-0423	Dissolved	Water	200.8	334392
550-201346-10 MSD	CH-CCR-MW77A-0423	Dissolved	Water	200.8	334392
570-140417-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.8	334377
570-140417-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	334377

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 334555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-41	CH-CCR-HuntB-0423	Dissolved	Water	200.8	334473
MB 570-334473/1-A	Method Blank	Total Recoverable	Water	200.8	334473
LCS 570-334473/2-A	Lab Control Sample	Total Recoverable	Water	200.8	334473
LCSD 570-334473/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	334473
570-140424-D-1-B MS	Matrix Spike	Dissolved	Water	200.8	334473
570-140424-D-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	334473

Prep Batch: 610716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	200.7	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	200.7	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7	
MB 280-610716/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-610716/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-175726-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7	
280-175726-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Prep Batch: 610725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	200.7	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	200.7	
MB 280-610725/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-610725/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-201346-23 MS	CH-CCR-TWX5-0423	Total/NA	Water	200.7	
550-201346-23 MSD	CH-CCR-TWX5-0423	Total/NA	Water	200.7	
550-201346-25 MS	CH-CCR-TWX6-0423	Total/NA	Water	200.7	
550-201346-25 MSD	CH-CCR-TWX6-0423	Total/NA	Water	200.7	

Analysis Batch: 611037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	200.7 Rev 4.4	610716

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 611037 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-610716/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	610716
LCS 280-610716/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	610716
280-175726-A-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	610716
280-175726-A-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	610716

Analysis Batch: 611354

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	200.7 Rev 4.4	610725
MB 280-610725/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	610725
LCS 280-610725/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-23 MS	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-23 MSD	CH-CCR-TWX5-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-25 MS	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	610725
550-201346-25 MSD	CH-CCR-TWX6-0423	Total/NA	Water	200.7 Rev 4.4	610725

Analysis Batch: 611360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	200.7 Rev 4.4	610716
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	200.7 Rev 4.4	610716

General Chemistry

Analysis Batch: 299237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	SM 2540C	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	SM 2540C	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	SM 2540C	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	SM 2540C	
MB 550-299237/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299237/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-299237/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201221-E-40 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 299238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	SM 2540C	
MB 550-299238/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299238/2	Lab Control Sample	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299238 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-299238/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201346-11 DU	CH-CCR-MW78A-0423	Total/NA	Water	SM 2540C	

Analysis Batch: 299402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	SM 2320B	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	SM 2320B	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	SM 2320B	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	SM 2320B	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	SM 2320B	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	SM 2320B	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	SM 2320B	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	SM 2320B	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	SM 2320B	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	SM 2320B	
MB 550-299402/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-299402/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-299402/12	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-201346-5 DU	CH-CCR-W307R-0423	Total/NA	Water	SM 2320B	

Analysis Batch: 299426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	SM 5310B	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	SM 5310B	
MB 550-299426/63	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-299426/64	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-299426/65	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-201435-C-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-201435-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 299475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	SM 2540C	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	SM 2540C	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	SM 2540C	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	SM 2540C	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	SM 2540C	
MB 550-299475/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299475/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-299475/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201368-H-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 299497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299497 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299497/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299497/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299497/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299497/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-201269-A-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-201346-13 DU	CH-CCR-BAP-0423	Total/NA	Water	SM 4500 H+ B	
550-201346-33 DU	CH-CCR-EB01-0423	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 299527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-2	CH-CCR-W302-0423	Dissolved	Water	SM 5310B	
550-201346-4	CH-CCR-W304-0423	Dissolved	Water	SM 5310B	
550-201346-6	CH-CCR-W307R-0423	Dissolved	Water	SM 5310B	
550-201346-8	CH-CCR-FD03-0423	Dissolved	Water	SM 5310B	
550-201346-10	CH-CCR-MW77A-0423	Dissolved	Water	SM 5310B	
550-201346-12	CH-CCR-MW78A-0423	Dissolved	Water	SM 5310B	
550-201346-14	CH-CCR-BAP-0423	Dissolved	Water	SM 5310B	
550-201346-16	CH-CCR-BAPTD-0423	Dissolved	Water	SM 5310B	
550-201346-18	CH-CCR-Petroglyph-0423	Dissolved	Water	SM 5310B	
550-201346-20	CH-CCR-TannerWash-0423	Dissolved	Water	SM 5310B	
550-201346-22	CH-CCR-TWX3-0423	Dissolved	Water	SM 5310B	
550-201346-24	CH-CCR-TWX5-0423	Dissolved	Water	SM 5310B	
550-201346-26	CH-CCR-TWX6-0423	Dissolved	Water	SM 5310B	
550-201346-28	CH-CCR-TWX7-0423	Dissolved	Water	SM 5310B	
550-201346-30	CH-CCR-TWX9-0423	Dissolved	Water	SM 5310B	
550-201346-32	CH-CCR-TWX10-0423	Dissolved	Water	SM 5310B	
550-201346-34	CH-CCR-EB01-0423	Dissolved	Water	SM 5310B	
550-201346-36	CH-CCR-FAP-0423	Dissolved	Water	SM 5310B	
550-201346-38	CH-CCR-GeronimoC-0423	Dissolved	Water	SM 5310B	
550-201346-40	CH-CCR-GeronimoD-0423	Dissolved	Water	SM 5310B	
550-201346-42	CH-CCR-HuntB-0423	Dissolved	Water	SM 5310B	
MB 550-299527/34	Method Blank	Dissolved	Water	SM 5310B	
MB 550-299527/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-299527/35	Lab Control Sample	Dissolved	Water	SM 5310B	
LCS 550-299527/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-299527/36	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
LCSD 550-299527/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-2 MS	CH-CCR-W302-0423	Dissolved	Water	SM 5310B	
550-201346-2 MSD	CH-CCR-W302-0423	Dissolved	Water	SM 5310B	
550-201346-42 MS	CH-CCR-HuntB-0423	Dissolved	Water	SM 5310B	
550-201346-42 MSD	CH-CCR-HuntB-0423	Dissolved	Water	SM 5310B	

Analysis Batch: 299554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	350.1	
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	350.1	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	350.1	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	350.1	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	350.1	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	350.1	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	350.1	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	350.1	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	350.1	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	350.1	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	350.1	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	350.1	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	350.1	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	350.1	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	350.1	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	350.1	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	350.1	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	350.1	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	350.1	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	350.1	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	350.1	
MB 550-299554/138	Method Blank	Total/NA	Water	350.1	
MB 550-299554/99	Method Blank	Total/NA	Water	350.1	
LCS 550-299554/100	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-299554/139	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-299554/101	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-299554/140	Lab Control Sample Dup	Total/NA	Water	350.1	
550-201346-17 MS	CH-CCR-Petroglyph-0423	Total/NA	Water	350.1	
550-201346-17 MSD	CH-CCR-Petroglyph-0423	Total/NA	Water	350.1	
550-201346-37 MS	CH-CCR-GeronimoC-0423	Total/NA	Water	350.1	
550-201346-37 MSD	CH-CCR-GeronimoC-0423	Total/NA	Water	350.1	

Analysis Batch: 299557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	SM 2540C	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	SM 2540C	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	SM 2540C	
MB 550-299557/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299557/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-299557/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201452-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry

Analysis Batch: 299558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	SM 2540C	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	SM 2540C	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	SM 2540C	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	SM 2540C	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	SM 2540C	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	SM 2540C	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	SM 2540C	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	SM 2540C	
MB 550-299558/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-299558/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-299558/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-201346-19 DU	CH-CCR-TannerWash-0423	Total/NA	Water	SM 2540C	

Analysis Batch: 299601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	SM 2320B	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	SM 2320B	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	SM 2320B	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	SM 2320B	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	SM 2320B	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	SM 2320B	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	SM 2320B	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	SM 2320B	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	SM 2320B	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	SM 2320B	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	SM 2320B	
MB 550-299601/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-299601/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-299601/16	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-201346-25 DU	CH-CCR-TWX6-0423	Total/NA	Water	SM 2320B	

Analysis Batch: 299691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	SM 5310B	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	SM 5310B	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	SM 5310B	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	SM 5310B	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	SM 5310B	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	SM 5310B	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	SM 5310B	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	SM 5310B	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	SM 5310B	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	SM 5310B	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	SM 5310B	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	SM 5310B	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	SM 5310B	
MB 550-299691/34	Method Blank	Total/NA	Water	SM 5310B	
MB 550-299691/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-299691/35	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 550-299691/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-299691/36	Lab Control Sample Dup	Total/NA	Water	SM 5310B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 299691 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-299691/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-201346-25 MS	CH-CCR-TWX6-0423	Total/NA	Water	SM 5310B	
550-201346-25 MSD	CH-CCR-TWX6-0423	Total/NA	Water	SM 5310B	

Analysis Batch: 611298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-1	CH-CCR-W302-0423	Total/NA	Water	353.2	
MB 280-611298/23	Method Blank	Total/NA	Water	353.2	
LCS 280-611298/21	Lab Control Sample	Total/NA	Water	353.2	
LCSD 280-611298/22	Lab Control Sample Dup	Total/NA	Water	353.2	

Analysis Batch: 611441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-201346-3	CH-CCR-W304-0423	Total/NA	Water	353.2	
550-201346-5	CH-CCR-W307R-0423	Total/NA	Water	353.2	
550-201346-7	CH-CCR-FD03-0423	Total/NA	Water	353.2	
550-201346-9	CH-CCR-MW77A-0423	Total/NA	Water	353.2	
550-201346-11	CH-CCR-MW78A-0423	Total/NA	Water	353.2	
550-201346-13	CH-CCR-BAP-0423	Total/NA	Water	353.2	
550-201346-15	CH-CCR-BAPTD-0423	Total/NA	Water	353.2	
550-201346-17	CH-CCR-Petroglyph-0423	Total/NA	Water	353.2	
550-201346-19	CH-CCR-TannerWash-0423	Total/NA	Water	353.2	
550-201346-21	CH-CCR-TWX3-0423	Total/NA	Water	353.2	
550-201346-23	CH-CCR-TWX5-0423	Total/NA	Water	353.2	
550-201346-25	CH-CCR-TWX6-0423	Total/NA	Water	353.2	
550-201346-27	CH-CCR-TWX7-0423	Total/NA	Water	353.2	
550-201346-29	CH-CCR-TWX9-0423	Total/NA	Water	353.2	
550-201346-31	CH-CCR-TWX10-0423	Total/NA	Water	353.2	
550-201346-33	CH-CCR-EB01-0423	Total/NA	Water	353.2	
550-201346-35	CH-CCR-FAP-0423	Total/NA	Water	353.2	
550-201346-37	CH-CCR-GeronimoC-0423	Total/NA	Water	353.2	
550-201346-39	CH-CCR-GeronimoD-0423	Total/NA	Water	353.2	
550-201346-41	CH-CCR-HuntB-0423	Total/NA	Water	353.2	
MB 280-611441/60	Method Blank	Total/NA	Water	353.2	
LCS 280-611441/59	Lab Control Sample	Total/NA	Water	353.2	
550-201346-3 MS	CH-CCR-W304-0423	Total/NA	Water	353.2	
550-201346-3 MSD	CH-CCR-W304-0423	Total/NA	Water	353.2	
550-201346-23 MS	CH-CCR-TWX5-0423	Total/NA	Water	353.2	
550-201346-23 MSD	CH-CCR-TWX5-0423	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-1

Date Collected: 04/24/23 14:54

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 17:37
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 17:56
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301422	GLW	EET PHX	06/01/23 04:20
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		10	301855	GLW	EET PHX	06/07/23 13:22
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611037	LMT	EET DEN	05/03/23 07:07
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:59
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 09:56
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:10
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:59
Total/NA	Analysis	353.2		1	611298	ZPM	EET DEN	05/04/23 12:29
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 16:07
Total/NA	Analysis	SM 2540C		1	299237	SMA	EET PHX	04/28/23 15:21 - 05/03/23 20:17 '1
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:51

Client Sample ID: CH-CCR-W302-0423

Lab Sample ID: 550-201346-2

Date Collected: 04/24/23 14:54

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:07
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 15:27

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-3

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 18:14
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 18:32
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:00
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:17
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:19
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611037	LMT	EET DEN	05/03/23 07:12

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-3

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:01
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 09:58
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:12
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:57
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:22
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 16:15
Total/NA	Analysis	SM 2540C		1	299237	SMA	EET PHX	04/28/23 15:21 - 05/03/23 20:17 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:53

Client Sample ID: CH-CCR-W304-0423

Lab Sample ID: 550-201346-4

Date Collected: 04/24/23 13:28

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:04
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 16:10

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-5

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 18:51
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 19:09
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301422	GLW	EET PHX	06/01/23 04:23
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		10	301855	GLW	EET PHX	06/07/23 13:25
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611037	LMT	EET DEN	05/03/23 07:16
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334506	Y2WS	EET CAL 4	06/05/23 10:54
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:01
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:14
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:56
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:28
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 16:35
Total/NA	Analysis	SM 2540C		1	299237	SMA	EET PHX	04/28/23 15:21 - 05/03/23 20:17 ¹

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-5

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:55

Client Sample ID: CH-CCR-W307R-0423

Lab Sample ID: 550-201346-6

Date Collected: 04/24/23 12:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:10
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 16:26

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-7

Date Collected: 04/24/23 16:20

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 19:28
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 19:46
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:08
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:26
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:28
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611037	LMT	EET DEN	05/03/23 07:21
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:53
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:03
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:16
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:54
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:42
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 16:50
Total/NA	Analysis	SM 2540C		1	299237	SMA	EET PHX	04/28/23 15:21 - 05/03/23 20:17 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:56

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-0423

Lab Sample ID: 550-201346-8

Date Collected: 04/24/23 16:20

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:13
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 16:38

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-9

Date Collected: 04/25/23 09:53

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 21:00
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 21:18
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:11
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:29
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:31
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611037	LMT	EET DEN	05/03/23 07:26
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:18
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:53
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:44
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 16:58
Total/NA	Analysis	SM 2540C		1	299475	CXK	EET PHX	05/02/23 18:03 - 05/08/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:58

Client Sample ID: CH-CCR-MW77A-0423

Lab Sample ID: 550-201346-10

Date Collected: 04/25/23 09:53

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:16
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:19
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:05
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 16:55

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-11

Date Collected: 04/24/23 17:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 21:36
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 21:55
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:14
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:32
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:33
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 03:35
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334506	Y2WS	EET CAL 4	06/05/23 10:57
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:07
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:20
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:51
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:46
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 17:06
Total/NA	Analysis	SM 2540C		1	299238	SMA	EET PHX	04/28/23 15:24 - 05/03/23 20:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 14:59

Client Sample ID: CH-CCR-MW78A-0423

Lab Sample ID: 550-201346-12

Date Collected: 04/24/23 17:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:19
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 17:08

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 22:13
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 22:32
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:17
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:34
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:36

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-13

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 03:56
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334506	Y2WS	EET CAL 4	06/05/23 10:59
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:09
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:50
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:48
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 16:33
Total/NA	Analysis	SM 2540C		1	299557	SMA	EET PHX	05/03/23 15:19 - 05/05/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:02
Total/NA	Analysis	SM 5310B		1	299426	RDC	EET PHX	05/02/23 09:01

Client Sample ID: CH-CCR-BAP-0423

Lab Sample ID: 550-201346-14

Date Collected: 04/26/23 11:38

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:21
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 17:24

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-15

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 22:50
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 23:08
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:20
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:37
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:39
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 04:00
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334506	Y2WS	EET CAL 4	06/05/23 11:02
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:36
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:48
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:50
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 16:39

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Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-15

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	299557	SMA	EET PHX	05/03/23 15:19 - 05/05/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:05
Total/NA	Analysis	SM 5310B		1	299426	RDC	EET PHX	05/02/23 09:16

Client Sample ID: CH-CCR-BAPTD-0423

Lab Sample ID: 550-201346-16

Date Collected: 04/26/23 08:27

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:24
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 17:37

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-17

Date Collected: 04/26/23 09:00

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300294	AS1	EET PHX	05/15/23 23:27
Total/NA	Analysis	300.0		200	300294	AS1	EET PHX	05/15/23 23:45
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:23
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:40
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:42
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 04:04
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:37
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:34
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:44
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:52
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 16:47
Total/NA	Analysis	SM 2540C		1	299557	SMA	EET PHX	05/03/23 15:19 - 05/05/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:07
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 20:27

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-0423

Lab Sample ID: 550-201346-18

Date Collected: 04/26/23 09:00

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:27
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 17:54

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-19

Date Collected: 04/26/23 09:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300393	AS1	EET PHX	05/16/23 15:37
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:25
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:43
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:45
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 04:08
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:40
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:31
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:29
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:54
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 16:54
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:08
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 20:44

Client Sample ID: CH-CCR-TannerWash-0423

Lab Sample ID: 550-201346-20

Date Collected: 04/26/23 09:16

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:30
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 18:07

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-21

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300394	AS1	EET PHX	05/16/23 15:36

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-21

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:34
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:51
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:53
Total/NA	Prep	200.7			610716	LJS	EET DEN	05/02/23 08:08
Total/NA	Analysis	200.7 Rev 4.4		1	611360	ADL	EET DEN	05/05/23 04:12
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:42
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:29
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:27
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:56
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:01
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:09
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 20:57

Client Sample ID: CH-CCR-TWX3-0423

Lab Sample ID: 550-201346-22

Date Collected: 04/26/23 09:41

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:38
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 18:50

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-23

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300394	AS1	EET PHX	05/16/23 16:32
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:37
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:54
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:56
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 15:18
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:44

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-23

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:27
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:26
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 12:58
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:08
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:10
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 21:10

Client Sample ID: CH-CCR-TWX5-0423

Lab Sample ID: 550-201346-24

Date Collected: 04/26/23 10:00

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:41
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 19:06

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-25

Date Collected: 04/26/23 10:11

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300393	AS1	EET PHX	05/16/23 17:00
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:40
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 04:57
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 13:59
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 15:38
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:46
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:21
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:24
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:16
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:29
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:12
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 22:31

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX6-0423

Lab Sample ID: 550-201346-26

Date Collected: 04/26/23 10:11

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:44
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 19:22

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-27

Date Collected: 04/26/23 10:29

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300390	AS1	EET PHX	05/16/23 20:17
Total/NA	Analysis	300.0		200	300390	AS1	EET PHX	05/16/23 20:35
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:42
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:00
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 14:03
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:02
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:48
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:11
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:23
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:18
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:43
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 '1
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:14
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 23:15

Client Sample ID: CH-CCR-TWX7-0423

Lab Sample ID: 550-201346-28

Date Collected: 04/26/23 10:29

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:47
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 19:35

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-29

Date Collected: 04/26/23 10:54

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		50	300390	AS1	EET PHX	05/16/23 20:54
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:45
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:03
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 14:06
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:06
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:25
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 10:40
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:21
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:20
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:50
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:15
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 23:32

Client Sample ID: CH-CCR-TWX9-0423

Lab Sample ID: 550-201346-30

Date Collected: 04/26/23 10:54

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:50
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 19:52

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-31

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300393	AS1	EET PHX	05/16/23 20:16
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:48
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:06
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301855	GLW	EET PHX	06/07/23 14:09
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:10

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-31

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:28
Total Recoverable	Prep	200.8			334377	JP8N	EET CAL 4	06/05/23 06:53
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:57
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:20
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:22
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 17:57
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:17
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/04/23 23:45

Client Sample ID: CH-CCR-TWX10-0423

Lab Sample ID: 550-201346-32

Date Collected: 04/26/23 11:05

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:53
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 20:05

Client Sample ID: CH-CCR-EB01-0423

Lab Sample ID: 550-201346-33

Date Collected: 04/26/23 12:46

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	300390	AS1	EET PHX	05/16/23 21:30
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:51
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:08
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:14
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		1	334514	Y2WS	EET CAL 4	06/05/23 11:14
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		1	334514	Y2WS	EET CAL 4	06/05/23 11:12
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:18
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:24
Total/NA	Analysis	SM 2320B		1	299601	MAN	EET PHX	05/03/23 18:03
Total/NA	Analysis	SM 2540C		1	299558	SMA	EET PHX	05/03/23 15:31 - 05/09/23 16:15 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:22
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/05/23 00:01

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-EB01-0423
Date Collected: 04/26/23 12:46
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-34
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 05:55
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 20:18

Client Sample ID: CH-CCR-FAP-0423
Date Collected: 04/25/23 13:35
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-35
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1000	300393	AS1	EET PHX	05/16/23 19:20
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		5	301422	GLW	EET PHX	06/01/23 05:11
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		10	301855	GLW	EET PHX	06/07/23 14:11
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		40	301884	GLW	EET PHX	06/07/23 17:15
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:18
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		100	334514	Y2WS	EET CAL 4	06/05/23 11:16
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		100	334514	Y2WS	EET CAL 4	06/05/23 09:54
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:22
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:17
Total/NA	Analysis	353.2		20	611441	ZPM	EET DEN	05/05/23 13:32
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 17:14
Total/NA	Analysis	SM 2540C		1	299475	CXK	EET PHX	05/02/23 18:03 - 05/08/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:24
Total/NA	Analysis	SM 5310B		10	299691	RDC	EET PHX	05/05/23 00:18

Client Sample ID: CH-CCR-FAP-0423
Date Collected: 04/25/23 13:35
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		5	301423	GLW	EET PHX	06/01/23 05:25
Dissolved	Analysis	SM 5310B		10	299527	RDC	EET PHX	05/02/23 20:34

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-37

Date Collected: 04/25/23 12:43

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		100	300393	AS1	EET PHX	05/16/23 21:12
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:57
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:14
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		10	301855	GLW	EET PHX	06/07/23 14:17
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:22
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:50
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:03
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:24
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:12
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:26
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 17:21
Total/NA	Analysis	SM 2540C		1	299475	CXK	EET PHX	05/02/23 18:03 - 05/08/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:25
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/05/23 00:32

Client Sample ID: CH-CCR-GeronimoC-0423

Lab Sample ID: 550-201346-38

Date Collected: 04/25/23 12:43

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 06:01
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 20:47

Client Sample ID: CH-CCR-GeronimoD-0423

Lab Sample ID: 550-201346-39

Date Collected: 04/25/23 13:04

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	300296	AS1	EET PHX	05/16/23 00:34
Total/NA	Analysis	300.0		200	300296	AS1	EET PHX	05/16/23 01:02
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	300233	GLW	EET PHX	05/12/23 19:59
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		1	301422	GLW	EET PHX	06/01/23 05:17
Total/NA	Prep	200.7			299326	SGO	EET PHX	05/01/23 09:59
Total/NA	Analysis	200.7 Rev 4.4		10	301855	GLW	EET PHX	06/07/23 14:14

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-GeronimoD-0423
Date Collected: 04/25/23 13:04
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-39
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:26
Dissolved	Prep	200.8			334392	JP8N	EET CAL 4	06/05/23 08:11
Dissolved	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:52
Total Recoverable	Prep	200.8			334377	JP8N	EET CAL 4	06/05/23 06:53
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:55
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:26
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:02
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:28
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 17:27
Total/NA	Analysis	SM 2540C		1	299475	CXK	EET PHX	05/02/23 18:03 - 05/08/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:26
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/05/23 00:46

Client Sample ID: CH-CCR-GeronimoD-0423
Date Collected: 04/25/23 13:04
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-40
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299324	SGO	EET PHX	05/01/23 09:53
Dissolved	Analysis	200.7		1	300337	GLW	EET PHX	05/16/23 06:04
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/02/23 21:01

Client Sample ID: CH-CCR-HuntB-0423
Date Collected: 04/25/23 11:13
Date Received: 04/27/23 08:57

Lab Sample ID: 550-201346-41
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	300296	AS1	EET PHX	05/16/23 01:29
Total/NA	Analysis	300.0		200	300296	AS1	EET PHX	05/16/23 01:57
Total/NA	Prep	200.7			299960	SGO	EET PHX	05/10/23 07:43
Total/NA	Analysis	200.7 Rev 4.4		1	300338	GLW	EET PHX	05/16/23 07:09
Total/NA	Prep	200.7			299960	SGO	EET PHX	05/10/23 07:43
Total/NA	Analysis	200.7 Rev 4.4		5	301421	GLW	EET PHX	06/01/23 03:49
Total/NA	Prep	200.7			610725	LJS	EET DEN	05/02/23 15:00
Total/NA	Analysis	200.7 Rev 4.4		1	611354	ADL	EET DEN	05/04/23 16:31
Dissolved	Prep	200.8			334473	JP8N	EET CAL 4	06/05/23 10:53
Dissolved	Analysis	200.8		10	334555	Y2WS	EET CAL 4	06/05/23 13:44
Total Recoverable	Prep	200.8			334375	JP8N	EET CAL 4	06/05/23 06:33
Total Recoverable	Analysis	200.8		10	334514	Y2WS	EET CAL 4	06/05/23 11:06
Total/NA	Prep	245.1			299369	SRR	EET PHX	05/01/23 16:38
Total/NA	Analysis	245.1		1	299393	SRR	EET PHX	05/01/23 21:32
Total/NA	Analysis	350.1		1	299554	MAN	EET PHX	05/03/23 13:00

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-41

Date Collected: 04/25/23 11:13

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	353.2		1	611441	ZPM	EET DEN	05/05/23 13:30
Total/NA	Analysis	SM 2320B		1	299402	MAN	EET PHX	05/01/23 17:33
Total/NA	Analysis	SM 2540C		1	299475	CXK	EET PHX	05/02/23 18:03 - 05/08/23 17:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	299497	MAN	EET PHX	05/03/23 15:28
Total/NA	Analysis	SM 5310B		1	299691	RDC	EET PHX	05/05/23 00:59

Client Sample ID: CH-CCR-HuntB-0423

Lab Sample ID: 550-201346-42

Date Collected: 04/25/23 11:13

Matrix: Water

Date Received: 04/27/23 08:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			299405	SGO	EET PHX	05/02/23 08:44
Dissolved	Analysis	200.7		1	300171	GLW	EET PHX	05/11/23 15:37
Dissolved	Analysis	SM 5310B		1	299527	RDC	EET PHX	05/03/23 09:06

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-09-23
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p>			
Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon
SM 5310B		Water	Dissolved Organic Carbon - Duplicate
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	05-22-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-201346-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Client Contact
Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319
Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (BAP)
PO #: 30052358

Regulatory Program: DW NPDES RCRA Other: CCR

Lab Contact: Danielle Robert

Date: 2013/4/6

Carrier: Pam Norris (505) 598-8781

TestAmerica Laboratories, Inc.
COC No: 1 of 3 COCS

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:		
CH-CGR-W302-0423	04/24/23	1454	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-01	+02 Low Flow	
CH-CGR-W304-0423	04/24/23	1328	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-03 +04	"
CH-CGR-W307R-0423	04/24/23	1216	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-05 +06	"
CH-CGR-FD03-0423	04/24/23	1620	G	W	10	*	N	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-07 +08	"
CH-CGR-MW77A-0423	04/25/23	953	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-09 +10	"
CH-CGR-MW78A-0423	04/24/23	1716	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-11 +12	"



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Perform Method 200.8 with collision cell: * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No
Custody Seal No.:
Cooler Temp (°C): Obs'd: _____ Cor'd: _____
Therm ID No.: _____
Relinquished by: *[Signature]* Company: WSP Date/Time: 4/27/23 09:57
Received by: _____ Company: _____ Date/Time: _____
Relinquished by: *[Signature]* Company: _____ Date/Time: _____
Received in Laboratory by: *[Signature]* Company: _____ Date/Time: 04-27-23 08:57

Hand 3.8-c, 4.2-c, 4.4-c, 4.8-c, 4.0-c

Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Phoenix

4625 E Cotton Center Blvd

Suite 189

Phoenix, AZ 85040

phone 602.437.3340 fax 602.454.9303

TestAmerica Laboratories, Inc.

201346

Regulatory Program:

DW NPDES RCRA Other: CCR

Client Contact

Arizona Public Service

4801 Cholla Lake Rd

Joseph City, AZ 86032

(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (BAP)

PO #: 300592358

Natalie Chrisman Lazarr

(602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Date:

Carrier:

Lab Contact: Danielle Roberts

Pam Norris (505) 598-8781

Other: CCR

SM 2320B (HCO3 Alk. as CaCO3)

SM 2320B (CO3 Alk. as CaCO3)

353.2 (NO3+NO2 as N)

SM 4500-NH3 D (NH3 as N)

SM 5310B (DOC)

SM 5410B (TOC)

SM 2540C (TDS)

SM 4500-HB (pH)

EPA 200.8 - Dissolved (As, Co)

EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)

EPA 200.7 - Dissolved (Fe, Mn)

EPA 200.7 - Total Lithium

EPA 300.0 (Cl, F, SO4)

Perform MS / MSD (Y / N)

Filtered Sample (Y / N)

Sample Specific Notes:

Surface Water Sample

Seepage Pump Port Sample

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Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
CH-COR-BAP-0423	04/26/23	1138	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-BAPTD-0423	04/26/23	827	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-Petroglyph-0423	04/26/23	900	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TannerWash-0423	04/26/23	916	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX3-0423	04/26/23	941	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX5-0423	04/26/23	1000	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX6-0423	04/26/23	1011	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX7-0423	04/26/23	1029	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX9-0423	04/26/23	1054	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-TWX10-0423	04/26/23	1105	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-COR-EB01-0423	04/26/23	1246	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Disposal by Lab Archive for _____ Months

Custody Seals Intact: Yes No

Relinquished by: *[Signature]* Company: WSP

Relinquished by: _____ Company: _____

Relinquished by: _____ Company: _____

Relinquished by: _____ Company: _____

Cooler Temp. (°C): Obs'd: _____ Corr'd: _____

Received by: _____ Date/Time: 4/27/23 08:55

Received by: _____ Date/Time: _____

Received by: _____ Date/Time: _____

Received by: _____ Date/Time: _____

Received by: _____ Date/Time: 04/27/23 08:57

Temp 3.6-2 for 2.0 4-4-2 4-8-2 4-8-2

4625 E Cotton Center Blvd

Suite 189

Phoenix, AZ 85040

phone 602.437.3340 fax 602.454.9303

Regulatory Program:

DW

NPDES

RCRA

Other:

CCR

TestAmerica Laboratories, Inc.

Client Contact

Arizona Public Service

4801 Cholla Lake Rd

Joseph City, AZ 86032

(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (FAP)

PO #: 300592358

Natalie Chrisman Lazarr

(602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS

WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Date:

201344

Carrier:

3 of 3 COCs

COC No.:

3

Sampler:

Surface Water Sample

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

See page Pump Port Sample

Sample Identification

Sample Date

Sample Time

Sample Type (G=Comp, G=Gen)

Matrix

of Cont.

Filtered Sample (Y/N)

Perform MS / MSD (Y/N)

EPA 300.0 (Cl, F, SO4)

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)

EPA 200.7 - Totals (B, Ca, Be)

EPA 200.7 - Total Lithium

EPA 200.7 - Dissolved (Fe, Mn)

EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)

EPA 200.8 - Dissolved (As, Co)

EPA 245.1 - Totals (Hg)

SM 4500-HB (pH)

SM 2540C (TDS)

SM 5310B (TOC)

SM 5310B (DOC)

SM 4500-NH3 D (NH3 as N)

353.2 (NO3+NO2 as N)

SM 2320B (CO3 Alk. as CaCO3)

SM 2320B (HCO3 Alk. as CaCO3)

Sample Specific Notes:

35+38 Surface Water Sample

37+38 See page Pump Port Sample

39+40 "

41+42 "

Sample ID	Sample Date	Sample Time	Sample Type (G=Comp, G=Gen)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (CO3 Alk. as CaCO3)	SM 2320B (HCO3 Alk. as CaCO3)		
CH-CCR-FAP-0423	04/25/23	1335	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-Geronimoc-0423	04/25/23	1243	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-Geronimod-0423	04/25/23	1304	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-HuntB-0423	04/25/23	1113	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell; * As marked on the bottle: perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No

Custody Seal No.:

Cooler Temp. (°C): Obs'd: _____

Therm ID No.:

Relinquished by: *HNQ* Company: *WSP* Date/Time: *4/27/23 08:57*

Relinquished by: _____ Company: _____ Date/Time: _____

Relinquished by: _____ Company: _____ Date/Time: _____

Received in Laboratory by: *ECSS* Company: *APS* Date/Time: *04/27/23 08:57*

3-6-e 4-20-e 4-4-e 4-8-e 4-0-e Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

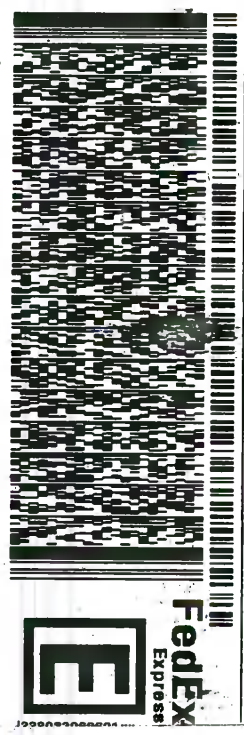
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- 6
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- 8
- 9
- 10
- 11
- 12
- 13
- 14

ORIGIN ID: INMA (602) 437-3940
 TESTAMERICA-PHOENIX
 TESTAMERICA
 4625 E COTTON CENTER BLVD
 SUITE 189
 PHOENIX, AZ 85040
 UNITED STATES US

SHIP DATE: 02JUN23
 ACTWT: 41.55 LB
 CAD: 08759287CAFE3621
 DIMS: 25X13X14 IN
 BILL RECIPIENT

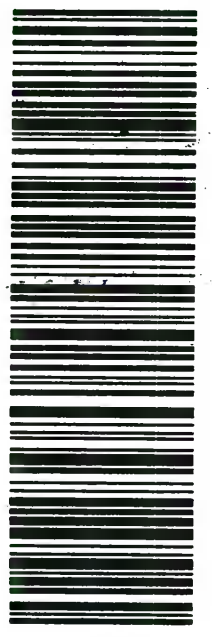
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780
 (714) 896-5494 REF: 8560-84293
 PO: YES DEPT: SAMPLE RECEIVING



TRK# 6388 9411 2388 SATURDAY 12:00P
 0201 PRIORITY OVERNIGHT

W0 DTHA 92780
 GA-US SNA



SSO-201346 Waybill

2247784
 Environment Testing
 TestAmerica

Custody Seal
 DATE: 6-22-23
 SIGNATURE: [Signature]

Environment Testing
 TestAmerica
 2247784

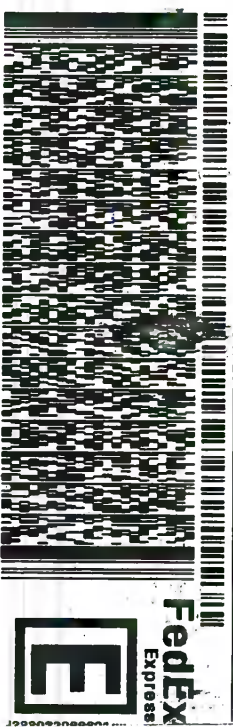
- 1
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- 12
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- 14

ORIGIN ID: INMA (602) 437-3340
 TESTAMERICA-PHOENIX
 TESTAMERICA
 4825 E COTTON CENTER BLVD
 SUITE 189
 PHOENIX, AZ 85040
 UNITED STATES US

SHIP DATE: 02JUN23
 ACTWT: 41.55 LB
 CAD: 08759267CAFE3621
 DIMS: 25x13x14 IN
 BILL RECIPIENT

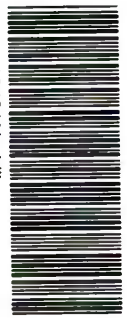
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780
 (714) 896-5494 REF: S550-84293
 PO: YES DEPT: SAMPLE RECEIVING



TRK# 6388 9411 2388 SATURDAY 12:00P
 0201 PRIORITY OVERNIGHT

W0 DTHA 92780
 CA-US SNA



550-201346 Waybill

Environment Testing
 TestAmerica

2247784

Custody Seal

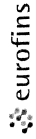
SIGNATURE _____
 DATE 06-02-23

eurofins | Environment Testing
 TestAmerica | 2247784

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab) Client Contact: Roberts, Danielle C Shipping/Receiving: Danielle.Roberts@et.eurofins.com Company: State - Arizona, State Program - Arizona		Lab PM: Roberts, Danielle C E-Mail: Danielle.Roberts@et.eurofins.com State of Origin: Arizona		Carrier Tracking No(s): 550-36695.3 Page: Page 3 of 3 Job #: 550-201346-1	
Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:		Due Date Requested: 5/10/2023 TAT Requested (days): PO #: WO #: Project #: 55009651 SSOW#:		Accreditations Required (See note): State - Arizona, State Program - Arizona	
Project Name: CCR Groundwater Monitoring Site: Arizona Public Service		Analysis Requested		Preservation Codes: M - Hexane N - None O - AsHAcO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - Trizma Y - EDTA Z - other (specify) Other:	
Sample Identification - Client ID (Lab ID)		Total Number of Containers		Special Instructions/Note:	
CH-CCR-GeronimoC-0423 (550-201346-37)	Sample Date: 4/25/23	Sample Time: 12:43 Arizona	Sample Type (C=Comp, G=grab):	Preservation Code: Water	Field Filtered Sample (Yes or No): X
CH-CCR-GeronimoD-0423 (550-201346-39)	Sample Date: 4/25/23	Sample Time: 13:04 Arizona	Sample Type (C=Comp, G=grab):	Preservation Code: Water	Field Filtered Sample (Yes or No): X
CH-CCR-HuntB-0423 (550-201346-41)	Sample Date: 4/25/23	Sample Time: 11:13 Arizona	Sample Type (C=Comp, G=grab):	Preservation Code: Water	Field Filtered Sample (Yes or No): X
Perform MS/MSD (Yes or No)		353.2_Pres		200.7/200.7_P_TOT Lithium-Total	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody to Eurofins Environment Testing Southwest, LLC.					
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by:					
Relinquished by: <i>Euro 0427-23</i>		Date/Time: 4/27/23 14:40		Company: GETSW	
Relinquished by:		Date/Time:		Company:	
Relinquished by:		Date/Time:		Company:	
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	
Δ Yes Δ No		Δ Yes Δ No		Δ Yes Δ No	



Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Roberts, Danielle C		Carrier Tracking No(s):		COC No: 550-37002.1				
Client Contact: Shipping/Receiving		Phone:		E-Mail: Danielle.Roberts@et.eurofins.com		State of Origin: Arizona		Page: Page 1 of 5				
Company: Eurofins Environment Testing Southwest,		Due Date Requested: 6/6/2023		Accreditations Required (See note): State - Arizona; State Program - Arizona		Job #: 550-201346-1		Preservation Codes:				
Address: 2841 Dow Avenue, Suite 100,		TAT Requested (days):		Analysis Requested		Total Number of containers		A - HCL		M - Hexane		
City: Tustin		PO #:						B - NaOH		N - None		O - AsNaO2
State, Zip: CA, 92780		WO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		C - Zn Acetate		P - Na2O4S		
Phone: 714-895-5494(Tel)		Project #: 55009651		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		D - Nitric Acid		Q - Na2SO3		
Email:		SSOW#:		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		E - NaHSO4		R - Na2S2O3		
Project Name: CCR Groundwater Monitoring		Site: Arizona Public Service		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		F - MeOH		S - H2SO4		
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)		T - TSP Dodecahydrate		
Preservation Code:										U - Acetone		
CH-CCR-W302-0423 (550-201346-2)		4/24/23		14:54 Arizona		Water				V - MCAA		
CH-CCR-W304-0423 (550-201346-3)		4/24/23		13:28 Arizona		Water				W - pH 4-5		
CH-CCR-W304-0423 (550-201346-4)		4/24/23		13:28 Arizona		Water				Y - Trizma		
CH-CCR-W307R-0423 (550-201346-5)		4/24/23		12:16 Arizona		Water				Z - other (specify)		
CH-CCR-W307R-0423 (550-201346-6)		4/24/23		12:16 Arizona		Water						
CH-CCR-FD03-0423 (550-201346-7)		4/24/23		16:20 Arizona		Water						
CH-CCR-FD03-0423 (550-201346-8)		4/24/23		16:20 Arizona		Water						
CH-CCR-MW77A-0423 (550-201346-9)		4/25/23		09:53 Arizona		Water						
CH-CCR-MW77A-0423 (550-201346-10)		4/25/23		09:53 Arizona		Water						
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.</p>												
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:							
Empty Kit Relinquished by:					Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>					Date/Time: <i>06-02-23 10:00</i>		Company: <i>ECTSW</i>		Received by: <i>[Signature]</i>		Date/Time: _____	
Relinquished by: <i>(FedEx)</i>					Date/Time: _____		Company: _____		Received by: <i>[Signature]</i>		Date/Time: <i>6-3-23 10:30</i>	
Relinquished by: _____					Date: _____		Company: _____		Received by: _____		Date/Time: _____	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:				Ambient Temperature(s) °C and Other Remarks: <i>NO ICE 21.1 / 21.3 sc6</i>						

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler:		Lab PM: Roberts, Danielle C		Carrier Tracking No(s):		COC No: 550-37002.2			
Client Contact: Shipping/Receiving		Phone:		E-Mail: Danielle.Roberts@et.eurofinsus.com		State of Origin: Arizona		Page: Page 2 of 5			
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Arizona; State Program - Arizona				Job #: 550-201346-1			
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 6/6/2023		Analysis Requested						Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)	
City: Tustin		TAT Requested (days):									
State, Zip: CA, 92780		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of containers			
Phone: 714-895-5494(Tel)		WO #:									
Email:		Project #: 55009651		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		Metals List			
Project Name: CCR Groundwater Monitoring		SSOW#:		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS		Metals List			
Site: Arizona Public Service		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)			
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)			
								Special Instructions/Note:			
10 CH-CCR-MW78A-0423 (550-201346-11)		4/24/23		17:16 Arizona		Water		X			
11 CH-CCR-MW78A-0423 (550-201346-12)		4/24/23		17:16 Arizona		Water		X			
12 CH-CCR-BAP-0423 (550-201346-13)		4/26/23		11:38 Arizona		Water		X			
13 CH-CCR-BAP-0423 (550-201346-14)		4/26/23		11:38 Arizona		Water		X			
14 CH-CCR-BAPTD-0423 (550-201346-15)		4/26/23		08:27 Arizona		Water		X			
15 CH-CCR-BAPTD-0423 (550-201346-16)		4/26/23		08:27 Arizona		Water		X			
16 CH-CCR-Petroglyph-0423 (550-201346-17)		4/26/23		09:00 Arizona		Water		X			
17 CH-CCR-Petroglyph-0423 (550-201346-18)		4/26/23		09:00 Arizona		Water		X			
18 CH-CCR-TannerWash-0423 (550-201346-19)		4/26/23		09:16 Arizona		Water		X			
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.											
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)						
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months						
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2						
Special Instructions/QC Requirements:											
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:				
Relinquished by: <i>[Signature]</i>			Date/Time: 06-02-23 10:00		Company: ECT/SCS		Received by: <i>[Signature]</i>				
Relinquished by: (FED EX)			Date/Time:		Company:		Received by: <i>[Signature]</i>				
Relinquished by:			Date/Time:		Company:		Received by: <i>[Signature]</i>				
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							
Δ Yes Δ No											

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)				Lab PM: Roberts, Danielle C	Carrier Tracking No(s):				COC No: 550-37002.3				
Client Contact: Shipping/Receiving				Phone:	E-Mail: Danielle.Roberts@et.eurofinsus.com				State of Origin: Arizona				
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Arizona; State Program - Arizona				Job #: 550-201346-1					
Address: 2841 Dow Avenue, Suite 100,				Due Date Requested: 6/6/2023				Analysis Requested					
City: Tustin				TAT Requested (days):									
State, Zip: CA, 92780				PO #:				Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)					
Project Name: CCR Groundwater Monitoring				Project #: 55009651									
Site: Arizona Public Service				SSOW#:				Other:					
Sample Identification - Client ID (Lab ID)				Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS Metals List	200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS Metals List	Total Number of containers	Special Instructions/Note:
				Preservation Code:									
19	CH-CCR-TannerWash-0423 (550-201346-20)			4/26/23	09:16 Arizona	Water	Water		X			1	
20	CH-CCR-TWX3-0423 (550-201346-21)			4/26/23	09:41 Arizona	Water	Water			X		1	
21	CH-CCR-TWX3-0423 (550-201346-22)			4/26/23	09:41 Arizona	Water	Water		X			1	
22	CH-CCR-TWX5-0423 (550-201346-23)			4/26/23	10:00 Arizona	Water	Water			X		1	
23	CH-CCR-TWX5-0423 (550-201346-24)			4/26/23	10:00 Arizona	Water	Water		X			1	
24	CH-CCR-TWX6-0423 (550-201346-25)			4/26/23	10:11 Arizona	Water	Water			X		1	
25	CH-CCR-TWX6-0423 (550-201346-26)			4/26/23	10:11 Arizona	Water	Water		X			1	
26	CH-CCR-TWX7-0423 (550-201346-27)			4/26/23	10:29 Arizona	Water	Water			X		1	
27	CH-CCR-TWX7-0423 (550-201346-28)			4/26/23	10:29 Arizona	Water	Water		X			1	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.													
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)							
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Deliverable Requested: I, II, III, IV, Other (specify)				Primary Deliverable Rank: 2		Special Instructions/QC Requirements:							
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:					
Relinquished by: <i>[Signature]</i>				Date/Time: 06-02-23 10:00		Company: <i>[Signature]</i>		Received by: <i>[Signature]</i>		Date/Time:		Company:	
Relinquished by: <i>(FCER)</i>				Date/Time:		Company:		Received by: <i>[Signature]</i>		Date/Time: 6-3-23 10:30		Company: EC	
Relinquished by:				Date/Time:		Company:		Received by:		Date/Time:		Company:	
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:							

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189

Phoenix, AZ 85040

Phone: 602-437-3340

Chain of Custody Record



Environment Testing

Client Information (Sub Contract Lab)		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:																				
Client Contact: Shipping/Receiving		Phone:		Roberts, Danielle C		E-Mail: Danielle.Roberts@et.eurofinsus.com		State of Origin: Arizona																				
Company: Eurofins Environment Testing Southwest,		Due Date Requested: 6/6/2023		Accreditations Required (See note): State - Arizona; State Program - Arizona		Job #: 550-201346-1		Page: Page 5 of 5																				
Address: 2841 Dow Avenue, Suite 100,		TAT Requested (days):		<table border="1"> <tr> <th colspan="10">Analysis Requested</th> </tr> <tr> <td>Field Filtered Sample (Yes or No)</td> <td>Perform MS/MSD (Yes or No)</td> <td>200.8_LL/FIELD_FLTRD (MOD) As, Co Dissolved FF</td> <td>200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS</td> <td>Metallic List</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Analysis Requested										Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8_LL/FIELD_FLTRD (MOD) As, Co Dissolved FF	200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS	Metallic List							Preservation Codes:	
Analysis Requested																												
Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8_LL/FIELD_FLTRD (MOD) As, Co Dissolved FF	200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS			Metallic List																						
City: Tustin	PO #:	A - HCL				M - Hexane																						
State, Zip: CA, 92780	WO #:	B - NaOH				N - None																						
Phone: 714-895-5494(Tel)		C - Zn Acetate		O - AsNaO2																								
Email:		D - Nitric Acid		P - Na2O4S																								
Project Name: CCR Groundwater Monitoring	Project #: 55009651	E - NaHSO4		Q - Na2SO3																								
Site: Arizona Public Service	SSOW#:	F - MeOH		R - Na2SO4																								
		G - Amchlor		S - H2SO4																								
		H - Ascorbic Acid		T - TSP Dodecahydrate																								
		I - Ice		U - Acetone																								
		J - DI Water		V - MCAA																								
		K - EDTA		W - pH 4-5																								
		L - EDA		Y - Trizma																								
				Z - other (specify)																								
				Other:																								

Sample Identification - Client ID (Lab ID)		**Sample Date**	**Sample Time**	**Sample Type (C=Comp, G=grab)**	**Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)**	**Field Filtered Sample (Yes or No)**	**Perform MS/MSD (Yes or No)**	**200.8_LL/FIELD_FLTRD (MOD) As, Co Dissolved FF**	**200.8_LL/200.8_P_TR Low Level CAM-17 ICP/MS**	**Metallic List**	**Total Number of containers**	**Special Instructions/Note:**
37	CH-CCR-GeronimoC-0423 (550-201346-38)	4/25/23	12:43 Arizona	Water	Water			X			1	
38	CH-CCR-GeronimoD-0423 (550-201346-39)	4/25/23	13:04 Arizona	Water	Water				X		1	
39	CH-CCR-GeronimoD-0423 (550-201346-40)	4/25/23	13:04 Arizona	Water	Water			X			1	
40	CH-CCR-HuntB-0423 (550-201346-41)	4/25/23	11:13 Arizona	Water	Water				X		1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Unconfirmed		<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:	
Primary Deliverable Rank: 2			

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: <i>[Signature]</i>	Date/Time: 06-02-23 10:00	Company: ETS SW	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date/Time:	Company:	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date/Time:	Company:	Received by: <i>[Signature]</i>

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
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Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-201346-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 201346
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-201346-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 201346

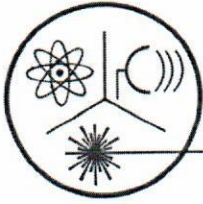
List Number: 2

Creator: Rystrom, Joshua R

List Source: Eurofins Denver

List Creation: 04/28/23 03:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW79A-0423	0.7 ± 0.2	< 0.6	0.7 ± 0.2

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
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5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 14, 2023 16:43 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	0.7 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	0.7 ± 0.2	_____
		1 pCi/L	Radium 228	4030	4/27/2023	< 0.6	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71527

Lab ID Number: AZ0462

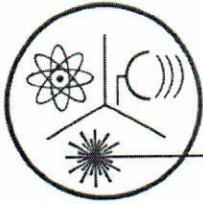
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW79A-0423

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD02-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
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Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 14, 2023 13:20 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/27/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71528

Lab ID Number: AZ0462

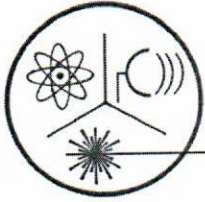
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD020423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W305-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
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5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____
 April 14, 2023 15:39 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person _____

 Owner/Contact Fax Number Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

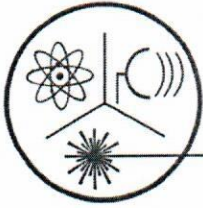
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/27/2023	< 0.6	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71529 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-W305,0423 _____
 Authorized Signature: *ally m...* _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W317-0423	< 0.5	1.2 ± 0.3	1.2 ± 0.3

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
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5/4/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 14, 2023 18:11 (24 hour clock)
 Sample Date Sample Time

 Owner/Contact Person

 Owner/Contact Fax Number

 Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
 Quarterly
 Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	1.2 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/27/2023	1.2 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE71530

Lab ID Number: AZ0462

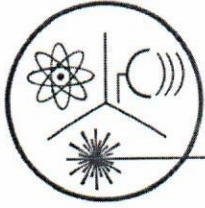
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W317-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W317-0423-sd	< 0.5	0.6 ± 0.3	0.6 ± 0.3

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
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Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 14, 2023 18:11 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	0.6 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/27/2023	0.6 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71530a

Lab ID Number: AZ0462

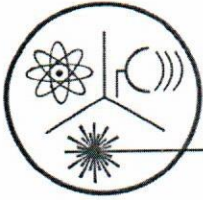
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W317-0423-sd

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2023
Sample Received: April 17, 2023
Analysis Completed: May 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD04-0423	< 0.5	< 0.6	< 0.6

Date of Analysis	4/27/2023	4/27/2023	4/27/2023
------------------	-----------	-----------	-----------

Alex Myers, Ph.D.

5/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 14, 2023 12:34 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/27/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/27/2023	< 0.5	_____
		1 pCi/L	Radium 228	4030	4/27/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71531 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-FD04-0423 _____

Authorized Signature: *ally* _____

Date Public Water System Notified: _____



Alex Myers <alex@radsafe.com>

Cholla Water Samples

OShea, Samantha <samantha.oshea@wsp.com>

Tue, Apr 18, 2023 at 12:40 PM

To: "alex@radsafe.com" <alex@radsafe.com>

Cc: "Pamela.Norris@aps.com" <Pamela.Norris@aps.com>, "Natalie.ChrismanLazarr@aps.com" <Natalie.ChrismanLazarr@aps.com>, "Cody.Miller@aps.com" <Cody.Miller@aps.com>

Alex-

We don't need those samples run for the Matrix Spike/Matrix Spike Duplicate process. Please run the parent sample and the duplicate sample for CH-CCR-W317-0423. Thank you and I apologize for the confusion.

Samantha O'Shea
Senior Consultant - Geologist
Site Investigation & Remediation Service Line Lead
T+ 1 507-469-9093
wsp.com

-----Original Message-----

From: Natalie.ChrismanLazarr@aps.com <Natalie.ChrismanLazarr@aps.com>
Sent: Monday, April 17, 2023 4:08 PM
To: OShea, Samantha <samantha.oshea@wsp.com>
Cc: Pamela.Norris@aps.com; Cody.Miller@aps.com
Subject: Fwd: Cholla Water Samples

Sam - Can you please address Alex's email below? I'm not sure about QC samples for rad analyses. Please confer with your chemist if you don't know. - Natalie

Get Outlook for iOS<<https://aka.ms/o0ukef>>

From: Alex Myers <alex@radsafe.com>
Sent: Monday, April 17, 2023 5:13 PM
To: Chrisman Lazarr, Natalie <Natalie.ChrismanLazarr@aps.com>
Subject: Cholla Water Samples

CAUTION ***CAUTION*** ***CAUTION***

This e-mail is from an EXTERNAL address (alex@radsafe.com). DO NOT click on links or open attachments unless you trust the sender and know the content is safe. If you suspect this message to be phishing, please report it to the APS Cyber Defense Center at ACDC@aps.com.

Hi Natalie,

I'm with Radiation Safety Engineering and we just received your groundwater samples from Cholla Power Plant. The majority of the samples received had two bottles per sample but one of the samples (CH-CCR-W317-0423) came with six bottles. On two of the bottles there is a -SD after the 0423 and on another two there is a -MS after the 0423.

Are these duplicate and matrix spike samples? If it is a matrix spike sample, did you spike them already? Do you want us to run these samples separately?

Just want to clarify before we start to analyze the samples.

Thanks!

Alex

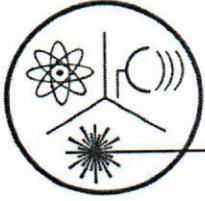
--

Alexander J. Myers, Ph.D.
Radiation Safety Engineering, Inc
3245 N Washington Street
Chandler, Arizona 85225
--- NOTICE ---

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-LAEmHhHzdJzBITWfa4Hgs7pbKI



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 25, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW77A-0423	0.6 ± 0.2	0.7 ± 0.3	1.3 ± 0.4

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
------------------	-----------	-----------	-----------

Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 25, 2023 9:53 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	1.3 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	0.6 ± 0.2	_____
		1 pCi/L	Radium 228	4030	4/28/2023	0.7 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<


Specimen Number: RSE71645

Lab ID Number: AZ0462

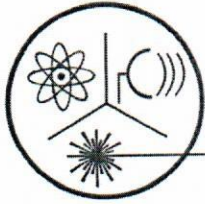
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW77A-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 24, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW78A-0423	0.7 ± 0.2	1.0 ± 0.3	1.7 ± 0.4

Date of Analysis	4/28/2023	4/28/2023	4/28/2023
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5/15/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 24, 2023 17:16 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/28/2023	1.7 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/28/2023	0.7 ± 0.2	_____
		1 pCi/L	Radium 228	4030	4/28/2023	1.0 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71646

Lab ID Number: AZ0462

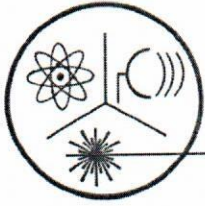
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW78A-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 25, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W125-0423	1.9 ± 0.3	0.9 ± 0.3	2.8 ± 0.4

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 25, 2023 12:17 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	2.8 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	1.9 ± 0.3	_____
		1 pCi/L	Radium 228	4030	5/5/2023	0.9 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<


Specimen Number: RSE71647 _____

Lab ID Number: AZ0462 _____

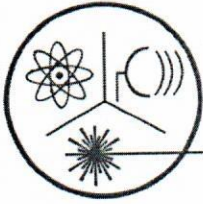
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W125-0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 24, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W307R-0423	< 0.4	< 0.6	< 0.6

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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5/15/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 24, 2023 12:16 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71648

Lab ID Number: AZ0462

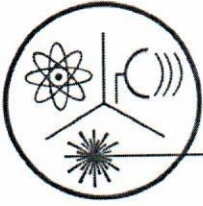
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W307R-0423

Authorized Signature: *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 24, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD03-0423	< 0.4	0.9 ± 0.3	0.9 ± 0.3

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 24, 2023 16:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	0.9 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	0.9 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

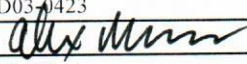
Specimen Number: RSE71649

Lab ID Number: AZ0462

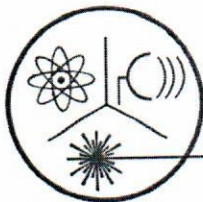
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD03-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 24, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W304-0423	< 0.4	< 0.6	< 0.6

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 24, 2023 13:28 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71650 _____

Lab ID Number: AZ0462 _____

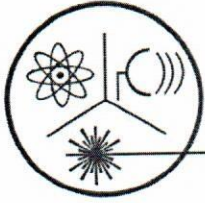
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W304-0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 24, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W302-0423	< 0.4	1.0 ± 0.3	1.0 ± 0.3

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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5/15/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 24, 2023 14:54 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	1.0 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	1.0 ± 0.3	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71651

Lab ID Number: AZ0462

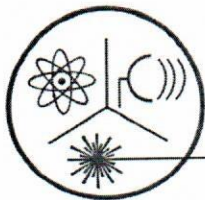
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W302-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 25, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FAP-0423	< 0.4	< 0.6	< 0.6

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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5/15/2023

Alex Myers, Ph.D.

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 25, 2023 13:35 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE71652

Lab ID Number: AZ0462

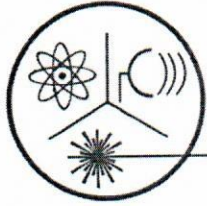
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FAP-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 25, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-HuntB-0423	0.7 ± 0.2	0.6 ± 0.3	1.3 ± 0.4

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
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Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 25, 2023 11:13 (24 hour clock)
 Sample Date Sample Time

 Owner/Contact Person

 Owner/Contact Fax Number

 Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	1.3 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	0.7 ± 0.2	_____
		1 pCi/L	Radium 228	4030	5/5/2023	0.6 ± 0.3	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<


Specimen Number: RSE71653

Lab ID Number: AZ0462

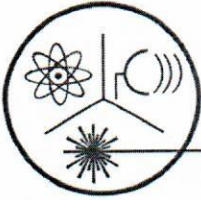
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-HumB-0423

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 26, 2023
Sample Received: April 27, 2023
Analysis Completed: May 15, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EB01-0423	< 0.4	< 0.6	< 0.6

Date of Analysis	5/5/2023	5/5/2023	5/5/2023
------------------	----------	----------	----------

Alex Myers, Ph.D.

5/15/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

April 26, 2023 12:46 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
600/00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/5/2023	< 0.6	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/5/2023	< 0.4	_____
		1 pCi/L	Radium 228	4030	5/5/2023	< 0.6	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<


Specimen Number: RSE71654 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-EB01_0423 _____

Authorized Signature:  _____

Date Public Water System Notified: _____

Client Information

Name: Natalie Chrisman/602-250-3608
 Company: Arizona Public Service
 Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032
 Phone: 928-587-0319
 Site: APS Cholla Power Plant (BAP)

Analysis Request

Sample ID & Location (DWR#)	Collection		Media (DW*, WW*, Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	Date	Time														
CH-CCR-MW77A-0423	4/25/2023	953	GW						X	X	X					
CH-CCR-MW78A-0423	4/24/2023	1716	GW						X	X	X					
CH-CCR-W125-0423	4/25/2023	1217	GW						X	X	X					
CH-CCR-W307R-0423	4/24/2023	1216	GW						X	X	X					
CH-CCR-FD03-0423	4/24/2023	1620	GW						X	X	X					
CH-CCR-W304-0423	4/24/2023	1328	GW						X	X	X					
CH-CCR-W302-0423	4/24/2023	1454	GW						X	X	X					
CH-CCR-FAP-0423	4/25/2023	1335	GW						X	X	X					
CH-CCR-HuntB-0423	4/25/2023	1113	GW						X	X	X					
CH-CCR-EB01-0423	4/26/2023	1246	GW						X	X	X					

71645
 71646
 71647
 71648
 71649
 71650
 71651
 71652
 71653
 71654

Sample Receipt

Invoice to: PO #: 300590342
 Total No. of Containers: **Last years P.O.**
 Chain of Custody Seals
 Container Condition
 Lab No.

Relinquished By: <i>[Signature]</i>	Company: <i>VSP</i>	Received By: <i>[Signature]</i>	Company: <i>[Signature]</i>
Relinquished By:	Company:	Received By:	Company:
Relinquished By:	Company:	Received By:	Company:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.
 u/client/forms/cofc_fm

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAM)

JOB NUMBER

550-200839-1

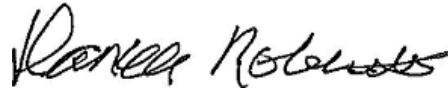
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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5/5/2023 3:28:01 PM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
R8	Sample RPD exceeded the method acceptance limit.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
SDG: APS Cholla Power Plant (BAM)

Job ID: 550-200839-1

Laboratory: Eurofins Phoenix

Narrative

**Job Narrative
550-200839-1**

Receipt

The samples were received on 4/17/2023 1:38 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 9.3°C

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: CH-CCR-M54-0423 (550-200839-1), CH-CCR-M59-0423 (550-200839-2), CH-CCR-M59-0423 (550-200839-2[DU]), CH-CCR-M59-0423 (550-200839-2[MS]), CH-CCR-M59-0423 (550-200839-2[MSD]), CH-CCR-M61-0423 (550-200839-3) and CH-CCR-FD01-0423 (550-200839-4). This does not meet regulatory requirements. The temperature of the cooler at receipt time was 9.3°C

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 2540C_Calcd: The sample duplicate (DUP) precision for analytical batch 550-298495 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-200839-1	CH-CCR-M54-0423	Water	04/13/23 08:56	04/17/23 13:38
550-200839-2	CH-CCR-M59-0423	Water	04/12/23 11:08	04/17/23 13:38
550-200839-3	CH-CCR-M61-0423	Water	04/12/23 12:48	04/17/23 13:38
550-200839-4	CH-CCR-FD01-0423	Water	04/12/23 16:20	04/17/23 13:38

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0423

Lab Sample ID: 550-200839-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	370	D2	100	mg/L	50		300.0	Total/NA
Boron	0.53		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	6900		100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M59-0423

Lab Sample ID: 550-200839-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	360	D2	100	mg/L	50		300.0	Total/NA
Boron	0.51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	93		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3600	R8	40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M61-0423

Lab Sample ID: 550-200839-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	350	D2	4.0	mg/L	2		300.0	Total/NA
Boron	0.51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	97		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900		100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD01-0423

Lab Sample ID: 550-200839-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D1	0.80	mg/L	2		300.0	Total/NA
Sulfate	350	D2	4.0	mg/L	2		300.0	Total/NA
Boron	0.51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	93		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	1100		40	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0423

Lab Sample ID: 550-200839-1

Date Collected: 04/13/23 08:56

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	100	mg/L			04/17/23 17:31	50
Fluoride	1.4	D1	0.80	mg/L			04/17/23 17:13	2
Sulfate	370	D2	100	mg/L			04/17/23 17:31	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.53		0.050	mg/L		04/19/23 06:10	05/05/23 00:11	1
Calcium	100		2.0	mg/L		04/19/23 06:10	04/28/23 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	6900		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			04/20/23 13:49	1
Temperature (SM 4500 H+ B)	15.8	H5 T5	0.1	Degrees C			04/20/23 13:49	1

Client Sample ID: CH-CCR-M59-0423

Lab Sample ID: 550-200839-2

Date Collected: 04/12/23 11:08

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	100	mg/L			04/17/23 19:40	50
Fluoride	1.4	D1	0.80	mg/L			04/17/23 18:45	2
Sulfate	360	D2	100	mg/L			04/17/23 19:40	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.51		0.050	mg/L		04/19/23 06:10	05/05/23 00:08	1
Calcium	93		2.0	mg/L		04/19/23 06:10	04/28/23 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3600	R8	40	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			04/20/23 13:50	1
Temperature (SM 4500 H+ B)	15.5	H5 T5	0.1	Degrees C			04/20/23 13:50	1

Client Sample ID: CH-CCR-M61-0423

Lab Sample ID: 550-200839-3

Date Collected: 04/12/23 12:48

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	100	mg/L			04/17/23 17:45	50
Fluoride	1.4	D1	0.80	mg/L			04/17/23 17:18	2
Sulfate	350	D2	4.0	mg/L			04/17/23 17:18	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.51		0.050	mg/L		04/19/23 06:10	05/05/23 00:14	1
Calcium	97		2.0	mg/L		04/19/23 06:10	04/28/23 19:24	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M61-0423

Lab Sample ID: 550-200839-3

Date Collected: 04/12/23 12:48

Matrix: Water

Date Received: 04/17/23 13:38

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2900		100	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			04/20/23 13:52	1
Temperature (SM 4500 H+ B)	14.8	H5 T5	0.1	Degrees C			04/20/23 13:52	1

Client Sample ID: CH-CCR-FD01-0423

Lab Sample ID: 550-200839-4

Date Collected: 04/12/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	100	mg/L			04/17/23 18:41	50
Fluoride	1.4	D1	0.80	mg/L			04/17/23 18:13	2
Sulfate	350	D2	4.0	mg/L			04/17/23 18:13	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.51		0.050	mg/L		04/19/23 06:10	05/05/23 00:17	1
Calcium	93		2.0	mg/L		04/19/23 06:10	04/28/23 19:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1100		40	mg/L			04/18/23 18:02	1
pH (SM 4500 H+ B)	7.8	H5	1.7	SU			04/20/23 13:53	1
Temperature (SM 4500 H+ B)	14.9	H5 T5	0.1	Degrees C			04/20/23 13:53	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-298417/2
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			04/17/23 11:00	1
Fluoride	ND		0.40	mg/L			04/17/23 11:00	1
Sulfate	ND		2.0	mg/L			04/17/23 11:00	1

Lab Sample ID: LCS 550-298417/5
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-298417/6
Matrix: Water
Analysis Batch: 298417

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.28		mg/L		107	90 - 110	4	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-200839-2 MS
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.4	D1	8.00	10.1	D1	mg/L		108	80 - 120

Lab Sample ID: 550-200839-2 MS
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1300	D2	1000	2400	D2	mg/L		107	80 - 120
Sulfate	360	D2	1000	1400	D2	mg/L		104	80 - 120

Lab Sample ID: 550-200839-2 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.4	D1	8.00	10.1	D1	mg/L		108	80 - 120	0	20

Lab Sample ID: 550-200839-2 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1300	D2	1000	2400	D2	mg/L		107	80 - 120	0	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-200839-2 MSD
Matrix: Water
Analysis Batch: 298417

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	360	D2	1000	1410	D2	mg/L		105	80 - 120	1	20

Lab Sample ID: MB 550-298418/2
Matrix: Water
Analysis Batch: 298418

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			04/17/23 10:51	1
Fluoride	ND		0.40	mg/L			04/17/23 10:51	1
Sulfate	ND		2.0	mg/L			04/17/23 10:51	1

Lab Sample ID: LCS 550-298418/5
Matrix: Water
Analysis Batch: 298418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-298418/6
Matrix: Water
Analysis Batch: 298418

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-200820-D-1 MS
Matrix: Water
Analysis Batch: 298418

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	190	M3	20.0	197	M3	mg/L		46	80 - 120
Fluoride	ND		4.00	4.25		mg/L		99	80 - 120
Sulfate	65		20.0	82.2		mg/L		88	80 - 120

Lab Sample ID: 550-200820-D-1 MSD
Matrix: Water
Analysis Batch: 298418

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	190	M3	20.0	197	M3	mg/L		46	80 - 120	0	20
Fluoride	ND		4.00	4.32		mg/L		101	80 - 120	2	20
Sulfate	65		20.0	82.5		mg/L		90	80 - 120	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-298512/1-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298512

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		2.0	mg/L		04/19/23 06:10	04/28/23 19:04	1

Lab Sample ID: MB 550-298512/1-A
Matrix: Water
Analysis Batch: 299737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 298512

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		04/19/23 06:10	05/04/23 23:54	1

Lab Sample ID: LCS 550-298512/2-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	21.0	23.1		mg/L		110	85 - 115

Lab Sample ID: LCS 550-298512/2-A
Matrix: Water
Analysis Batch: 299737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.08		mg/L		108	85 - 115

Lab Sample ID: LCSD 550-298512/3-A
Matrix: Water
Analysis Batch: 299290

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	21.0	22.7		mg/L		108	85 - 115	2	20

Lab Sample ID: LCSD 550-298512/3-A
Matrix: Water
Analysis Batch: 299737

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.08		mg/L		108	85 - 115	0	20

Lab Sample ID: 550-200839-2 MS
Matrix: Water
Analysis Batch: 299290

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	93		21.0	112	M3	mg/L		88	70 - 130

Lab Sample ID: 550-200839-2 MS
Matrix: Water
Analysis Batch: 299737

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.51		1.00	1.61		mg/L		110	70 - 130

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-200839-2 MSD
Matrix: Water
Analysis Batch: 299290

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	93		21.0	115	M3	mg/L		102	70 - 130	3	20

Lab Sample ID: 550-200839-2 MSD
Matrix: Water
Analysis Batch: 299737

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA
Prep Batch: 298512

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.51		1.00	1.62		mg/L		111	70 - 130	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-298495/1
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			04/18/23 18:02	1

Lab Sample ID: LCS 550-298495/2
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-298495/3
Matrix: Water
Analysis Batch: 298495

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10

Lab Sample ID: 550-200839-2 DU
Matrix: Water
Analysis Batch: 298495

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3600	R8	2800	R8	mg/L		25	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-298680/25
Matrix: Water
Analysis Batch: 298680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-298680/37
Matrix: Water
Analysis Batch: 298680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: 550-200712-B-1 DU
Matrix: Water
Analysis Batch: 298680

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	H5	7.5	H5	SU		0.5	5
Temperature	14.0	H5	14.8	H5	Degrees C		6	

Lab Sample ID: LCSSRM 550-299146/13
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-299146/25
Matrix: Water
Analysis Batch: 299146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: 550-200839-2 DU
Matrix: Water
Analysis Batch: 299146

Client Sample ID: CH-CCR-M59-0423
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.8	H5	7.8	H5	SU		0.1	5
Temperature	14.2	H5 T5	14.2	H5	Degrees C		0	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

HPLC/IC

Analysis Batch: 298417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	300.0	
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	300.0	
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	300.0	
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	300.0	
MB 550-298417/2	Method Blank	Total/NA	Water	300.0	
LCS 550-298417/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-298417/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-200839-2 MS	CH-CCR-M59-0423	Total/NA	Water	300.0	
550-200839-2 MS	CH-CCR-M59-0423	Total/NA	Water	300.0	
550-200839-2 MSD	CH-CCR-M59-0423	Total/NA	Water	300.0	
550-200839-2 MSD	CH-CCR-M59-0423	Total/NA	Water	300.0	

Analysis Batch: 298418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	300.0	
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	300.0	
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	300.0	
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	300.0	
MB 550-298418/2	Method Blank	Total/NA	Water	300.0	
LCS 550-298418/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-298418/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-200820-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-200820-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 298512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	200.7	
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	200.7	
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	200.7	
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	200.7	
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-200839-2 MS	CH-CCR-M59-0423	Total/NA	Water	200.7	
550-200839-2 MSD	CH-CCR-M59-0423	Total/NA	Water	200.7	

Analysis Batch: 299290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	200.7 Rev 4.4	298512
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298512
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298512
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2 MS	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2 MSD	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Metals

Analysis Batch: 299737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	200.7 Rev 4.4	298512
MB 550-298512/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	298512
LCS 550-298512/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	298512
LCSD 550-298512/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2 MS	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512
550-200839-2 MSD	CH-CCR-M59-0423	Total/NA	Water	200.7 Rev 4.4	298512

General Chemistry

Analysis Batch: 298495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	SM 2540C	
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	SM 2540C	
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	SM 2540C	
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	SM 2540C	
MB 550-298495/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-298495/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-298495/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-200839-2 DU	CH-CCR-M59-0423	Total/NA	Water	SM 2540C	

Analysis Batch: 298680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-200839-1	CH-CCR-M54-0423	Total/NA	Water	SM 4500 H+ B	
550-200839-2	CH-CCR-M59-0423	Total/NA	Water	SM 4500 H+ B	
550-200839-3	CH-CCR-M61-0423	Total/NA	Water	SM 4500 H+ B	
550-200839-4	CH-CCR-FD01-0423	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-298680/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200712-B-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 299146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-299146/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-299146/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-200839-2 DU	CH-CCR-M59-0423	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-0423

Lab Sample ID: 550-200839-1

Date Collected: 04/13/23 08:56

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	298417	AS1	EET PHX	04/17/23 17:13
Total/NA	Analysis	300.0		50	298417	AS1	EET PHX	04/17/23 17:31
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299290	GLW	EET PHX	04/28/23 19:21
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299737	GLW	EET PHX	05/05/23 00:11
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:49

Client Sample ID: CH-CCR-M59-0423

Lab Sample ID: 550-200839-2

Date Collected: 04/12/23 11:08

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	298417	AS1	EET PHX	04/17/23 18:45
Total/NA	Analysis	300.0		50	298417	AS1	EET PHX	04/17/23 19:40
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299290	GLW	EET PHX	04/28/23 19:18
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299737	GLW	EET PHX	05/05/23 00:08
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:50

Client Sample ID: CH-CCR-M61-0423

Lab Sample ID: 550-200839-3

Date Collected: 04/12/23 12:48

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	298418	AS1	EET PHX	04/17/23 17:18
Total/NA	Analysis	300.0		50	298418	AS1	EET PHX	04/17/23 17:45
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299290	GLW	EET PHX	04/28/23 19:24
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299737	GLW	EET PHX	05/05/23 00:14
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:52

Client Sample ID: CH-CCR-FD01-0423

Lab Sample ID: 550-200839-4

Date Collected: 04/12/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	298418	AS1	EET PHX	04/17/23 18:13
Total/NA	Analysis	300.0		50	298418	AS1	EET PHX	04/17/23 18:41

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-FD01-0423

Lab Sample ID: 550-200839-4

Date Collected: 04/12/23 16:20

Matrix: Water

Date Received: 04/17/23 13:38

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299290	GLW	EET PHX	04/28/23 19:27
Total/NA	Prep	200.7			298512	SGO	EET PHX	04/19/23 06:10
Total/NA	Analysis	200.7 Rev 4.4		1	299737	GLW	EET PHX	05/05/23 00:17
Total/NA	Analysis	SM 2540C		1	298495	JNW	EET PHX	04/18/23 18:02 - 04/24/23 10:42 ¹
Total/NA	Analysis	SM 4500 H+ B		1	298680	MAN	EET PHX	04/20/23 13:53

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature



Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-200839-1
SDG: APS Cholla Power Plant (BAM)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



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Regulatory Program:

DW NPDES RCRA Other: CCR

200839

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(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (BAM)

PO #: 300592358

Natalie Chrisman Lazarr

(602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS

WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.
CH-CGR-M54-0423	04/13/23	8:56	G	W	2
CH-CGR-M59-0423	04/12/23	11:08	G	W	2
CH-CGR-M61-0423	04/12/23	12:48	G	W	2
CH-CGR-FD01-0423	04/12/23	16:20	G	W	2

Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca)	SM 4500-HB (pH)	SM 2540C (TDS)
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X

Date:

Carrier:

Sampler:

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

COC No.:

1 of 1 COCs

Sample Specific Notes:
 9.3°C Low Flow
 9.3°C Low Flow, MS/MSD
 9.3°C
 9.3°C
 9.3°C



Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

Custody Seals Intact:

Yes No

Custody Seal No.:

Company:

Date/Time:

Received by:

Company:

Date/Time:

Therm ID No.:

Relinquished by:

Company:

Date/Time:

Received in Laboratory by:

Company:

Date/Time:

Company:

Date/Time:

Company:

Relinquished by:

Company:

Date/Time:

Received in Laboratory by:

Company:

Date/Time:

Company:

Date/Time:

Company:

PC on ice 9.30c

Corrd:

Company: EETA PHX

Date/Time: 4/17/23 13:58

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-200839-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 200839
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAM)

JOB NUMBER

550-202028-1

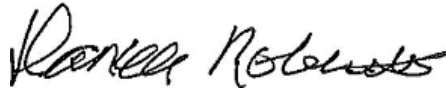
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

Job ID: 550-202028-1

Laboratory: Eurofins Phoenix

Narrative

**Job Narrative
550-202028-1**

Comments

No additional comments.

Receipt

The sample was received on 5/10/2023 5:11 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method SM 2540C: Constant weight was not achieved after 3 drying cycles for the following sample: (550-202181-A-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-202028-1	CH-CCR-M60-0523	Water	05/10/23 10:36	05/10/23 17:11

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-0523

Lab Sample ID: 550-202028-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	40	mg/L	20		300.0	Total/NA
Fluoride	1.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	370	D2	20	mg/L	10		300.0	Total/NA
Boron	0.51		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	79		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2800		40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.



Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-0523

Lab Sample ID: 550-202028-1

Date Collected: 05/10/23 10:36

Matrix: Water

Date Received: 05/10/23 17:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	40	mg/L			06/03/23 18:22	20
Fluoride	1.4		0.40	mg/L			06/02/23 15:22	1
Sulfate	370	D2	20	mg/L			06/02/23 15:40	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.51		0.050	mg/L		05/16/23 06:17	06/09/23 20:15	1
Calcium	79		2.0	mg/L		05/16/23 06:17	06/09/23 20:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2800		40	mg/L			05/16/23 15:59	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			05/17/23 15:30	1
Temperature (SM 4500 H+ B)	12.3	H5 T5	0.1	Degrees C			05/17/23 15:30	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-301617/2
Matrix: Water
Analysis Batch: 301617

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			06/02/23 11:51	1
Fluoride	ND		0.40	mg/L			06/02/23 11:51	1
Sulfate	ND		2.0	mg/L			06/02/23 11:51	1

Lab Sample ID: LCS 550-301617/5
Matrix: Water
Analysis Batch: 301617

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		102	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-301617/6
Matrix: Water
Analysis Batch: 301617

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-202029-A-5 MS ^500
Matrix: Water
Analysis Batch: 301617

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	ND	D1 D5	10000	11100	D2	mg/L		104	80 - 120
Fluoride	ND	D1 D5	2000	2030	D2	mg/L		102	80 - 120
Sulfate	7000	D2	10000	17400	D2	mg/L		103	80 - 120

Lab Sample ID: 550-202029-A-5 MSD ^500
Matrix: Water
Analysis Batch: 301617

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND	D1 D5	10000	11200	D2	mg/L		104	80 - 120	1	20
Fluoride	ND	D1 D5	2000	2060	D2	mg/L		103	80 - 120	1	20
Sulfate	7000	D2	10000	17600	D2	mg/L		106	80 - 120	1	20

Lab Sample ID: MB 550-301658/2
Matrix: Water
Analysis Batch: 301658

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			06/03/23 11:42	1
Fluoride	ND		0.40	mg/L			06/03/23 11:42	1
Sulfate	ND		2.0	mg/L			06/03/23 11:42	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-301658/5
Matrix: Water
Analysis Batch: 301658

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-301658/6
Matrix: Water
Analysis Batch: 301658

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.11		mg/L		103	90 - 110	1	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-202671-A-1 MS
Matrix: Water
Analysis Batch: 301658

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	310	E2 M3	20.0	309	E2 M3	mg/L		16	80 - 120
Fluoride	ND		4.00	4.45		mg/L		105	80 - 120
Sulfate	210	E2 M3	20.0	223	E2 M3	mg/L		55	80 - 120

Lab Sample ID: 550-202671-A-1 MSD
Matrix: Water
Analysis Batch: 301658

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	310	E2 M3	20.0	309	E2 M3	mg/L		16	80 - 120	0	20
Fluoride	ND		4.00	4.59		mg/L		108	80 - 120	3	20
Sulfate	210	E2 M3	20.0	223	E2 M3	mg/L		55	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-300305/1-A
Matrix: Water
Analysis Batch: 302083

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 300305

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		05/16/23 06:17	06/09/23 20:01	1
Calcium	ND		2.0	mg/L		05/16/23 06:17	06/09/23 20:01	1

Lab Sample ID: LCS 550-300305/2-A
Matrix: Water
Analysis Batch: 302083

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 300305

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	20.0		mg/L		95	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-300305/3-A
Matrix: Water
Analysis Batch: 302083

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 300305

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.00		mg/L		100	85 - 115	1	20
Calcium	21.0	19.2		mg/L		92	85 - 115	4	20

Lab Sample ID: 550-202028-1 MS
Matrix: Water
Analysis Batch: 302083

Client Sample ID: CH-CCR-M60-0523
Prep Type: Total/NA
Prep Batch: 300305

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.51		1.00	1.52		mg/L		101	70 - 130
Calcium	79		21.0	100		mg/L		103	70 - 130

Lab Sample ID: 550-202028-1 MSD
Matrix: Water
Analysis Batch: 302083

Client Sample ID: CH-CCR-M60-0523
Prep Type: Total/NA
Prep Batch: 300305

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.51		1.00	1.52		mg/L		101	70 - 130	0	20
Calcium	79		21.0	102		mg/L		112	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-300366/1
Matrix: Water
Analysis Batch: 300366

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			05/16/23 15:59	1

Lab Sample ID: LCS 550-300366/2
Matrix: Water
Analysis Batch: 300366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-300366/3
Matrix: Water
Analysis Batch: 300366

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	1	10

Lab Sample ID: 550-202181-A-1 DU
Matrix: Water
Analysis Batch: 300366

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1600		1440		mg/L		10	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-300503/1
Matrix: Water
Analysis Batch: 300503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-300503/13
Matrix: Water
Analysis Batch: 300503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: 550-202028-1 DU
Matrix: Water
Analysis Batch: 300503

Client Sample ID: CH-CCR-M60-0523
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.7	H5	7.7	H5	SU		0.1	5
Temperature	12.3	H5 T5	12.3	H5	Degrees C		0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

HPLC/IC

Analysis Batch: 301617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	300.0	
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	300.0	
MB 550-301617/2	Method Blank	Total/NA	Water	300.0	
LCS 550-301617/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-301617/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-202029-A-5 MS ^500	Matrix Spike	Total/NA	Water	300.0	
550-202029-A-5 MSD ^500	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 301658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	300.0	
MB 550-301658/2	Method Blank	Total/NA	Water	300.0	
LCS 550-301658/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-301658/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-202671-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-202671-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 300305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	200.7	
MB 550-300305/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-300305/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-300305/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-202028-1 MS	CH-CCR-M60-0523	Total/NA	Water	200.7	
550-202028-1 MSD	CH-CCR-M60-0523	Total/NA	Water	200.7	

Analysis Batch: 302083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	200.7 Rev 4.4	300305
MB 550-300305/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	300305
LCS 550-300305/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	300305
LCSD 550-300305/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	300305
550-202028-1 MS	CH-CCR-M60-0523	Total/NA	Water	200.7 Rev 4.4	300305
550-202028-1 MSD	CH-CCR-M60-0523	Total/NA	Water	200.7 Rev 4.4	300305

General Chemistry

Analysis Batch: 300366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	SM 2540C	
MB 550-300366/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-300366/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-300366/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-202181-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 300503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1	CH-CCR-M60-0523	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-300503/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-300503/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

General Chemistry (Continued)

Analysis Batch: 300503 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-202028-1 DU	CH-CCR-M60-0523	Total/NA	Water	SM 4500 H+ B	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-0523

Lab Sample ID: 550-202028-1

Date Collected: 05/10/23 10:36

Matrix: Water

Date Received: 05/10/23 17:11

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	300.0		1	301617	RDC	EET PHX	06/02/23 15:22
Total/NA	Analysis	300.0		10	301617	RDC	EET PHX	06/02/23 15:40
Total/NA	Analysis	300.0		20	301658	RDC	EET PHX	06/03/23 18:22
Total/NA	Prep	200.7			300305	SGO	EET PHX	05/16/23 06:17
Total/NA	Analysis	200.7 Rev 4.4		1	302083	GLW	EET PHX	06/09/23 20:15
Total/NA	Analysis	SM 2540C		1	300366	SMA	EET PHX	05/16/23 15:59 - 05/19/23 16:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	300503	MAN	EET PHX	05/17/23 15:30

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-09-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature



Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-202028-1
SDG: APS Cholla Power Plant (BAM)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-202028-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 202028

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Moitoring
APS Cholla Power Plant (FAP)

JOB NUMBER

550-210925-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Authorized for release by
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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project: CCR Groundwater Moitoring

Job ID: 550-210925-1

Job ID: 550-210925-1

Eurofins Phoenix

Job Narrative 550-210925-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/22/2023 9:13 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

HPLC/IC

Method 300_ORGFMS: The following samples were diluted due to the nature of the sample matrix: CH-CCR-M44D-1023 (550-210925-1) and CH-CCR-FD05-1023 (550-210925-2). Elevated reporting limits (RLs) are provided. The following samples require a 2x dilution in order to preserve instrumentation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-210925-1	CH-CCR-M44D-1023	Water	11/21/23 08:46	11/22/23 09:13
550-210925-2	CH-CCR-FD05-1023	Water	11/21/23 16:20	11/22/23 09:13

- 1
- 2
- 3
- 4
- 5
- 6
- 7
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- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M44D-1023

Lab Sample ID: 550-210925-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	mg/L	200		300.0	Total/NA
Boron	0.33		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	98		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0019		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.029		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0022	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	2300		40	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD05-1023

Lab Sample ID: 550-210925-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	mg/L	200		300.0	Total/NA
Boron	0.32		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0018		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.027		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0021	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	2300		40	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M44D-1023

Lab Sample ID: 550-210925-1

Date Collected: 11/21/23 08:46

Matrix: Water

Date Received: 11/22/23 09:13

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400	mg/L			12/11/23 21:09	200
Fluoride	ND	D1 D5	0.80	mg/L			12/11/23 20:51	2
Sulfate	ND	D2	400	mg/L			12/11/23 21:09	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/06/23 16:32	1
Boron	0.33		0.050	mg/L		11/27/23 09:06	12/06/23 16:32	1
Calcium	98		2.0	mg/L		11/27/23 09:06	12/06/23 16:32	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.050	mg/L		11/29/23 06:35	11/29/23 20:37	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 15:18	1
Arsenic	0.0019		0.00050	mg/L		11/29/23 06:26	12/01/23 15:18	1
Barium	0.029		0.00050	mg/L		11/29/23 06:26	12/01/23 15:18	1
Cadmium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 15:18	1
Chromium	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 15:18	1
Cobalt	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 15:18	1
Lead	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 15:18	1
Molybdenum	0.0022	T5	0.00050	mg/L		11/29/23 06:26	12/01/23 15:18	1
Selenium	ND		0.010	mg/L		11/29/23 06:26	12/20/23 10:58	20
Thallium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 15:18	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/30/23 12:50	11/30/23 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2300		40	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			11/29/23 13:25	1
Temperature (SM 4500 H+ B)	10.8	H5 T5	0.1	Degrees C			11/29/23 13:25	1

Client Sample ID: CH-CCR-FD05-1023

Lab Sample ID: 550-210925-2

Date Collected: 11/21/23 16:20

Matrix: Water

Date Received: 11/22/23 09:13

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	mg/L			12/11/23 21:46	200
Fluoride	ND	D1 D5	0.80	mg/L			12/11/23 21:27	2
Sulfate	ND	D2	400	mg/L			12/11/23 21:46	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/06/23 16:35	1
Boron	0.32		0.050	mg/L		11/27/23 09:06	12/06/23 16:35	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD05-1023

Lab Sample ID: 550-210925-2

Date Collected: 11/21/23 16:20

Matrix: Water

Date Received: 11/22/23 09:13

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	100		2.0	mg/L		11/27/23 09:06	12/06/23 16:35	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.050	mg/L		11/29/23 06:35	11/29/23 20:39	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 15:20	1
Arsenic	0.0018		0.00050	mg/L		11/29/23 06:26	12/01/23 15:20	1
Barium	0.027		0.00050	mg/L		11/29/23 06:26	12/01/23 15:20	1
Cadmium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 15:20	1
Chromium	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 15:20	1
Cobalt	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 15:20	1
Lead	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 15:20	1
Molybdenum	0.0021	T5	0.00050	mg/L		11/29/23 06:26	12/01/23 15:20	1
Selenium	ND		0.010	mg/L		11/29/23 06:26	12/20/23 11:00	20
Thallium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 15:20	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/30/23 12:50	11/30/23 16:57	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2300		40	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			11/29/23 13:26	1
Temperature (SM 4500 H+ B)	11.2	H5 T5	0.1	Degrees C			11/29/23 13:26	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-312541/2
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			12/11/23 13:29	1
Fluoride	ND		0.40	mg/L			12/11/23 13:29	1
Sulfate	ND		2.0	mg/L			12/11/23 13:29	1

Lab Sample ID: LCS 550-312541/5
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		100	90 - 110
Fluoride	4.00	3.85		mg/L		96	90 - 110
Sulfate	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-312541/6
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.85		mg/L		96	90 - 110	0	20
Sulfate	20.0	19.9		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-210912-D-1 MS
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		290	80 - 120
Fluoride	ND		4.00	3.93		mg/L		95	80 - 120
Sulfate	320	E2 M3	20.0	318	E2 M3	mg/L		10	80 - 120

Lab Sample ID: 550-210912-D-1 MSD
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		291	80 - 120	0	20
Fluoride	ND		4.00	4.10		mg/L		100	80 - 120	4	20
Sulfate	320	E2 M3	20.0	319	E2 M3	mg/L		12	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-311692/1-A
Matrix: Water
Analysis Batch: 312341

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311692

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/06/23 16:04	1
Boron	ND		0.050	mg/L		11/27/23 09:06	12/06/23 16:04	1
Calcium	ND		2.0	mg/L		11/27/23 09:06	12/06/23 16:04	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCS 550-311692/2-A
Matrix: Water
Analysis Batch: 312341

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Beryllium	1.00	1.07		mg/L		107	85 - 115	
Boron	1.00	1.07		mg/L		107	85 - 115	
Calcium	21.0	22.7		mg/L		108	85 - 115	

Lab Sample ID: LCSD 550-311692/3-A
Matrix: Water
Analysis Batch: 312341

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Beryllium	1.00	1.06		mg/L		106	85 - 115	0	20	
Boron	1.00	1.07		mg/L		107	85 - 115	1	20	
Calcium	21.0	22.7		mg/L		108	85 - 115	0	20	

Lab Sample ID: MB 570-387575/1-A
Matrix: Water
Analysis Batch: 387924

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 387575

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.050	mg/L		11/29/23 06:35	11/29/23 20:13	1

Lab Sample ID: LCS 570-387575/2-A
Matrix: Water
Analysis Batch: 387924

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 387575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Lithium	0.500	0.519		mg/L		104	85 - 115	

Lab Sample ID: LCSD 570-387575/3-A
Matrix: Water
Analysis Batch: 387924

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 387575

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Lithium	0.500	0.524		mg/L		105	85 - 115	1	20	

Lab Sample ID: 570-162250-B-1-B MS
Matrix: Water
Analysis Batch: 387924

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 387575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Lithium	0.11		0.500	0.607		mg/L		99	80 - 120	

Lab Sample ID: 570-162250-B-1-C MSD
Matrix: Water
Analysis Batch: 387924

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 387575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	
									Limits		RPD	Limit
Lithium	0.11		0.500	0.599		mg/L		97	80 - 120	1	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-311836/1-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311836

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Arsenic	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Barium	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Cadmium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Chromium	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Cobalt	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Lead	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Molybdenum	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Selenium	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Thallium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 14:33	1

Lab Sample ID: MB 550-311836/1-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311836

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Selenium	ND		0.00050	mg/L		11/29/23 06:26	12/20/23 10:07	1

Lab Sample ID: LCS 550-311836/2-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							%Rec	Limits
Antimony	0.100	0.0986		mg/L		99	85 - 115	
Arsenic	0.100	0.0892		mg/L		89	85 - 115	
Barium	0.100	0.0899		mg/L		90	85 - 115	
Cadmium	0.100	0.0914		mg/L		91	85 - 115	
Chromium	0.100	0.0955		mg/L		95	85 - 115	
Cobalt	0.100	0.0969		mg/L		97	85 - 115	
Lead	0.100	0.0943		mg/L		94	85 - 115	
Molybdenum	0.100	0.0976		mg/L		98	85 - 115	
Selenium	0.100	0.0900		mg/L		90	85 - 115	
Thallium	0.100	0.0937		mg/L		94	85 - 115	

Lab Sample ID: LCS 550-311836/2-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							%Rec	Limits
Selenium	0.100	0.0950		mg/L		95	85 - 115	

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	
							%Rec	Limits	RPD	Limit
Antimony	0.100	0.0967		mg/L		97	85 - 115	2	20	
Arsenic	0.100	0.0910		mg/L		91	85 - 115	2	20	
Barium	0.100	0.0913		mg/L		91	85 - 115	2	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
Cadmium	0.100	0.0935		mg/L		94	85 - 115	2	20	
Chromium	0.100	0.0986		mg/L		99	85 - 115	3	20	
Cobalt	0.100	0.101		mg/L		101	85 - 115	4	20	
Lead	0.100	0.0969		mg/L		97	85 - 115	3	20	
Molybdenum	0.100	0.101		mg/L		101	85 - 115	4	20	
Selenium	0.100	0.0890		mg/L		89	85 - 115	1	20	
Thallium	0.100	0.0972		mg/L		97	85 - 115	4	20	

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	
Selenium	0.100	0.0942		mg/L		94	85 - 115	1	20	

Lab Sample ID: 550-210901-E-1-B MS
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Antimony	ND		0.100	0.0994		mg/L		99	70 - 130	
Arsenic	0.0021		0.100	0.111		mg/L		109	70 - 130	
Barium	0.012	R4	0.100	0.0942		mg/L		83	70 - 130	
Cadmium	0.00012		0.100	0.0877		mg/L		88	70 - 130	
Chromium	ND		0.100	0.110		mg/L		109	70 - 130	
Cobalt	0.019		0.100	0.129		mg/L		110	70 - 130	
Lead	0.0020		0.100	0.0886		mg/L		87	70 - 130	
Molybdenum	0.024		0.100	0.124		mg/L		100	70 - 130	
Selenium	0.0017		0.100	0.114		mg/L		112	70 - 130	
Thallium	0.00024		0.100	0.0895		mg/L		89	70 - 130	

Lab Sample ID: 550-210901-E-1-B MS ^20
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	RPD
Selenium	ND		0.100	0.0864		mg/L		86	70 - 130	

Lab Sample ID: 550-210901-E-1-C MSD
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	
									Limits	RPD	Limit	
Antimony	ND		0.100	0.107		mg/L		107	70 - 130	8	20	
Arsenic	0.0021		0.100	0.116		mg/L		114	70 - 130	5	20	
Barium	0.012	R4	0.100	0.117	R4	mg/L		105	70 - 130	22	20	
Cadmium	0.00012		0.100	0.0924		mg/L		92	70 - 130	5	20	
Chromium	ND		0.100	0.116		mg/L		116	70 - 130	6	20	
Cobalt	0.019		0.100	0.137		mg/L		117	70 - 130	6	20	
Lead	0.0020		0.100	0.0972		mg/L		95	70 - 130	9	20	

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-210901-E-1-C MSD
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
Molybdenum	0.024		0.100	0.132		mg/L		108	70 - 130	6	20
Selenium	0.0017		0.100	0.121		mg/L		119	70 - 130	6	20
Thallium	0.00024		0.100	0.0929		mg/L		93	70 - 130	4	20

Lab Sample ID: 550-210901-E-1-C MSD ^20
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
Selenium	ND		0.100	0.0835		mg/L		83	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-311982/1-A
Matrix: Water
Analysis Batch: 312030

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311982

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		11/30/23 12:50	11/30/23 16:23	1

Lab Sample ID: LCS 550-311982/2-A
Matrix: Water
Analysis Batch: 312030

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311982

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Added	Result				Qualifier
Mercury	0.00500	0.00447		mg/L		89	85 - 115

Lab Sample ID: LCSD 550-311982/3-A
Matrix: Water
Analysis Batch: 312030

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311982

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
		Added	Result				Qualifier		Limits
Mercury	0.00500	0.00445		mg/L		89	85 - 115	0	20

Lab Sample ID: 550-210673-J-2-D MSD
Matrix: Water
Analysis Batch: 312030

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 311982

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
Mercury	ND		0.00500	0.00446		mg/L		89	70 - 130	3	20

Lab Sample ID: 550-210925-2 MS
Matrix: Water
Analysis Batch: 312030

Client Sample ID: CH-CCR-FD05-1023
Prep Type: Total/NA
Prep Batch: 311982

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				Limits
Mercury	ND		0.00500	0.00517		mg/L		103	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-311774/1
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			11/28/23 10:33	1

Lab Sample ID: LCS 550-311774/2
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-311774/3
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	990		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-210915-I-1 DU
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	15000		15100		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-311913/37
Matrix: Water
Analysis Batch: 311913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-311913/49
Matrix: Water
Analysis Batch: 311913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-210901-A-1 DU
Matrix: Water
Analysis Batch: 311913

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4		7.4		SU		0.1	5
Temperature	10.4		10.3		Degrees C		1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 312541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	300.0	
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	300.0	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	300.0	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	300.0	
MB 550-312541/2	Method Blank	Total/NA	Water	300.0	
LCS 550-312541/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-312541/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-210912-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-210912-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 311692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	200.7	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	200.7	
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	

Prep Batch: 311836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	200.8	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	200.8	
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-210901-E-1-B MS	Matrix Spike	Total/NA	Water	200.8	
550-210901-E-1-B MS ^20	Matrix Spike	Total/NA	Water	200.8	
550-210901-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	
550-210901-E-1-C MSD ^20	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 311982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	245.1	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	245.1	
MB 550-311982/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-311982/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-311982/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-210673-J-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
550-210925-2 MS	CH-CCR-FD05-1023	Total/NA	Water	245.1	

Analysis Batch: 312030

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	245.1	311982
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	245.1	311982
MB 550-311982/1-A	Method Blank	Total/NA	Water	245.1	311982
LCS 550-311982/2-A	Lab Control Sample	Total/NA	Water	245.1	311982
LCSD 550-311982/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	311982
550-210673-J-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	311982
550-210925-2 MS	CH-CCR-FD05-1023	Total/NA	Water	245.1	311982

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Metals

Analysis Batch: 312165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	200.8 LL	311836
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	200.8 LL	311836
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8 LL	311836
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	311836
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	311836
550-210901-E-1-B MS	Matrix Spike	Total/NA	Water	200.8 LL	311836
550-210901-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	311836

Analysis Batch: 312341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	200.7 Rev 4.4	311692
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	311692
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	311692
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	311692

Analysis Batch: 313057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	200.8 LL	311836
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	200.8 LL	311836
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8 LL	311836
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	311836
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	311836
550-210901-E-1-B MS ^20	Matrix Spike	Total/NA	Water	200.8 LL	311836
550-210901-E-1-C MSD ^20	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	311836

Prep Batch: 387575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total Recoverable	Water	200.7	
550-210925-2	CH-CCR-FD05-1023	Total Recoverable	Water	200.7	
MB 570-387575/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-387575/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-387575/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-162250-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.7	
570-162250-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 387924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total Recoverable	Water	200.7 Rev 4.4	387575
550-210925-2	CH-CCR-FD05-1023	Total Recoverable	Water	200.7 Rev 4.4	387575
MB 570-387575/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	387575
LCS 570-387575/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	387575
LCSD 570-387575/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	387575
570-162250-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	387575
570-162250-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	387575

General Chemistry

Analysis Batch: 311774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 311774 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	SM 2540C	
MB 550-311774/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-311774/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-311774/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-210915-I-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 311913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210925-1	CH-CCR-M44D-1023	Total/NA	Water	SM 4500 H+ B	
550-210925-2	CH-CCR-FD05-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-311913/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-311913/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-210901-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M44D-1023

Lab Sample ID: 550-210925-1

Date Collected: 11/21/23 08:46

Matrix: Water

Date Received: 11/22/23 09:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 20:51
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 21:09
Total Recoverable	Prep	200.7			387575	JP8N	EET CAL 4	11/29/23 06:35
Total Recoverable	Analysis	200.7 Rev 4.4		1	387924	P1R	EET CAL 4	11/29/23 20:37
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312341	GLW	EET PHX	12/06/23 16:32
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 15:18
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		20	313057	DSJ	EET PHX	12/20/23 10:58
Total/NA	Prep	245.1			311982	HHL	EET PHX	11/30/23 12:50
Total/NA	Analysis	245.1		1	312030	HHL	EET PHX	11/30/23 16:55
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	311913	MAN	EET PHX	11/29/23 13:25

Client Sample ID: CH-CCR-FD05-1023

Lab Sample ID: 550-210925-2

Date Collected: 11/21/23 16:20

Matrix: Water

Date Received: 11/22/23 09:13

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 21:27
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 21:46
Total Recoverable	Prep	200.7			387575	JP8N	EET CAL 4	11/29/23 06:35
Total Recoverable	Analysis	200.7 Rev 4.4		1	387924	P1R	EET CAL 4	11/29/23 20:39
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312341	GLW	EET PHX	12/06/23 16:35
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 15:20
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		20	313057	DSJ	EET PHX	12/20/23 11:00
Total/NA	Prep	245.1			311982	HHL	EET PHX	11/30/23 12:50
Total/NA	Analysis	245.1		1	312030	HHL	EET PHX	11/30/23 16:57
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	311913	MAN	EET PHX	11/29/23 13:26

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
California	Los Angeles County Sanitation Districts	10109	08-01-24
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	08-01-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24



Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Moitoring

Job ID: 550-210925-1
 SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210925-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 210925

List Number: 1

Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210925-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 210925

List Number: 2

Creator: Kasianchuk, Ivanna

List Source: Eurofins Calscience

List Creation: 11/28/23 01:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2264122
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (FAP)

JOB NUMBER

550-209145-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R8	Sample RPD exceeded the method acceptance limit.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

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Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-209145-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209145-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/13/2023 4:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.4°C

HPLC/IC

Method 300_ORGFMS: Due to the high concentration of chloride and sulfate the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309721 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300_ORGFMS: Due to the high concentration of nitrate and nitrite the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-310017 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 200.7_CWA: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCT-M64A-1023 (550-209145-3), CH-CCR-W123R-1023 (550-209145-5), CH-CCR-FAP-1023 (550-209145-7) and CH-CCR-FAP-1023 (550-209145-8). Elevated reporting limits (RLs) are provided.

Method 200.7_CWA: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCT-M64A-1023 (550-209145-3), CH-CCR-W123R-1023 (550-209145-5), CH-CCR-FAP-1023 (550-209145-7) and CH-CCR-FAP-1023 (550-209145-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 2540C_Calcd: The sample duplicate (DUP) precision for analytical batch 550-309541 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209145-1	CH-CCR-FD06-1023	Water	10/11/23 13:31	10/13/23 16:49
550-209145-2	CH-CCR-M63A-1023	Water	10/11/23 12:33	10/13/23 16:49
550-209145-3	CH-CCT-M64A-1023	Water	10/11/23 15:15	10/13/23 16:49
550-209145-4	CH-CCT-M64A-1023	Water	10/11/23 15:15	10/13/23 16:49
550-209145-5	CH-CCR-W123R-1023	Water	10/11/23 13:52	10/13/23 16:49
550-209145-6	CH-CCR-W123R-1023	Water	10/11/23 13:52	10/13/23 16:49
550-209145-7	CH-CCR-FAP-1023	Water	10/13/23 08:55	10/13/23 16:49
550-209145-8	CH-CCR-FAP-1023	Water	10/13/23 08:55	10/13/23 16:49

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Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD06-1023

Lab Sample ID: 550-209145-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	150	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	480	D2	20	mg/L	10		300.0	Total/NA
Lithium	0.066	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.20		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0089		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.028		0.0050	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	1600		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M63A-1023

Lab Sample ID: 550-209145-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	160		4.0	mg/L	2		300.0	Total/NA
Sulfate	480	D2	20	mg/L	10		300.0	Total/NA
Lithium	0.067	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.21		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0093		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.028		0.0050	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	1600		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4100	D2	100	mg/L	50		300.0	Total/NA
Sulfate	3600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.28	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.91		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.3		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0073		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.012		0.0050	mg/L	10		200.8 LL	Total/NA
Ammonia	0.90		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	430		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	5.2	M1	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	5.2	M1	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	5.2	M1	0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	6.5		0.10	mg/L	1		200.7	Dissolved
Manganese	2.2		0.010	mg/L	1		200.7	Dissolved
Arsenic	7.1		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5600	D2	200	mg/L	100		300.0	Total/NA
Fluoride	5.4		0.40	mg/L	1		300.0	Total/NA
Sulfate	3600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.50	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	41		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	38		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.011		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.011		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.15	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Ammonia	1.4		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	47		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	47		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000		200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.6		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.8		0.010	mg/L	1		200.7	Dissolved
Arsenic	11		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78000	D2	1000	mg/L	500		300.0	Total/NA
Fluoride	19	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	69000	D2	1000	mg/L	500		300.0	Total/NA
Beryllium	0.0078		0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	16	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1000		1.3	mg/L	25		200.7 Rev 4.4	Total/NA
Calcium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.7		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	19000		50	mg/L	25		200.7 Rev 4.4	Total/NA
Manganese	48		0.25	mg/L	25		200.7 Rev 4.4	Total/NA
Potassium	910		13	mg/L	25		200.7 Rev 4.4	Total/NA
Sodium	51000		50	mg/L	100		200.7 Rev 4.4	Total/NA
Antimony	0.11		0.020	mg/L	20		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FAP-1023 (Continued)

Lab Sample ID: 550-209145-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.76		0.010	mg/L	20		200.8 LL	Total/NA
Barium	0.14		0.010	mg/L	20		200.8 LL	Total/NA
Cobalt	0.020		0.010	mg/L	20		200.8 LL	Total/NA
Molybdenum	1.0	T5	0.010	mg/L	20		200.8 LL	Total/NA
Selenium	0.13		0.010	mg/L	20		200.8 LL	Total/NA
Thallium	0.0022		0.0020	mg/L	20		200.8 LL	Total/NA
Ammonia	0.15		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	84		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	84		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	180000		1000	mg/L	1		SM 2540C	Total/NA
pH	6.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	130	D2	5.0	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	130	D2	5.0	mg/L	10		SM 5310B	Total/NA
Total Organic Carbon - Quad	130	D2	5.0	mg/L	10		SM 5310B	Total/NA
Dissolved Organic Carbon	140	D2	5.0	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	140	D2	5.0	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	140	D2	5.0	mg/L	10		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.86		0.10	mg/L	1		200.7	Dissolved
Manganese	50		0.25	mg/L	25		200.7	Dissolved
Arsenic	770		10	ug/L	20		200.8 LL	Dissolved
Cobalt	21		10	ug/L	20		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD06-1023

Lab Sample ID: 550-209145-1

Date Collected: 10/11/23 13:31

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150	D2	4.0	mg/L			10/14/23 15:58	2
Fluoride	ND		0.40	mg/L			10/14/23 15:40	1
Sulfate	480	D2	20	mg/L			10/26/23 15:15	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:36	1
Lithium	0.066	T5	0.020	mg/L		10/30/23 15:17	10/31/23 15:19	1
Boron	0.20		0.050	mg/L		10/16/23 08:14	10/18/23 20:36	1
Calcium	130		2.0	mg/L		10/16/23 08:14	10/18/23 20:36	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:22	10
Arsenic	0.0089		0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Barium	0.028		0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:22	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:22	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Molybdenum	ND	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:22	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:22	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:22	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1600		20	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			10/18/23 14:01	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:01	1

Client Sample ID: CH-CCR-M63A-1023

Lab Sample ID: 550-209145-2

Date Collected: 10/11/23 12:33

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	160		4.0	mg/L			10/14/23 15:21	2
Fluoride	ND		0.40	mg/L			10/14/23 14:26	1
Sulfate	480	D2	20	mg/L			10/26/23 10:29	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:33	1
Lithium	0.067	T5	0.020	mg/L		10/30/23 15:17	10/31/23 15:23	1
Boron	0.21		0.050	mg/L		10/16/23 08:14	10/18/23 20:33	1
Calcium	130		2.0	mg/L		10/16/23 08:14	10/18/23 20:33	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M63A-1023

Lab Sample ID: 550-209145-2

Date Collected: 10/11/23 12:33

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:20	10
Arsenic	0.0093		0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Barium	0.028		0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:20	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:20	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Molybdenum	ND	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:20	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:20	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:20	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1600		20	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:09	1
Temperature (SM 4500 H+ B)	11.7	H5 T5	0.1	Degrees C			10/18/23 14:09	1

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-3

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4100	D2	100	mg/L			10/26/23 12:02	50
Fluoride	ND		0.40	mg/L			10/14/23 16:17	1
Sulfate	3600	D2	100	mg/L			10/26/23 12:02	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:39	1
Lithium	0.28	T5	0.020	mg/L		10/30/23 15:17	10/31/23 15:35	1
Boron	0.91		0.050	mg/L		10/16/23 08:14	10/18/23 20:39	1
Calcium	570		2.0	mg/L		10/16/23 08:14	10/18/23 20:39	1
Iron	6.3		0.10	mg/L		10/16/23 08:14	10/18/23 20:39	1
Magnesium	260		2.0	mg/L		10/16/23 08:14	10/18/23 20:39	1
Manganese	2.2		0.010	mg/L		10/16/23 08:14	10/18/23 20:39	1
Potassium	14		0.50	mg/L		10/16/23 08:14	10/18/23 20:39	1
Sodium	2900		5.0	mg/L		10/16/23 08:14	10/25/23 14:15	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:24	10
Arsenic	0.0073		0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10
Barium	0.012		0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:24	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:24	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-3

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10
Molybdenum	ND	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:24	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:24	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.90		0.050	mg/L			10/25/23 08:52	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:53	1
Alkalinity as CaCO3 (SM 2320B)	430		6.0	mg/L			10/18/23 13:49	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/18/23 13:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	430		6.0	mg/L			10/18/23 13:49	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 13:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 13:49	1
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:02	1
Temperature (SM 4500 H+ B)	12.7	H5 T5	0.1	Degrees C			10/18/23 14:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	5.2	M1	0.50	mg/L			10/30/23 17:22	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	5.2	M1	0.50	mg/L			10/30/23 17:22	1
Dissolved Organic Carbon - Quad (SM 5310B)	5.2	M1	0.50	mg/L			10/30/23 17:22	1

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-4

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.5		0.10	mg/L		10/16/23 08:14	10/18/23 20:41	1
Manganese	2.2		0.010	mg/L		10/16/23 08:14	10/18/23 20:41	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.1		5.0	ug/L		10/16/23 09:20	10/18/23 15:27	10
Cobalt	ND		5.0	ug/L		10/16/23 09:20	10/18/23 15:27	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-5

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5600	D2	200	mg/L			10/26/23 11:43	100
Fluoride	5.4		0.40	mg/L			10/14/23 16:53	1
Sulfate	3600	D2	100	mg/L			10/26/23 11:25	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:44	1
Lithium	0.50	T5	0.020	mg/L		10/30/23 15:17	10/31/23 15:55	1
Boron	41		0.050	mg/L		10/16/23 08:14	10/18/23 20:44	1
Calcium	730		2.0	mg/L		10/16/23 08:14	10/18/23 20:44	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:44	1
Magnesium	280		2.0	mg/L		10/16/23 08:14	10/18/23 20:44	1
Manganese	2.8		0.010	mg/L		10/16/23 08:14	10/18/23 20:44	1
Potassium	38		0.50	mg/L		10/16/23 08:14	10/18/23 20:44	1
Sodium	3300		5.0	mg/L		10/16/23 08:14	10/25/23 14:18	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:29	10
Arsenic	0.011		0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Barium	0.011		0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:29	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:29	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Molybdenum	0.15	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:29	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:29	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.4		0.050	mg/L			10/25/23 08:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 21:07	1
Alkalinity as CaCO3 (SM 2320B)	47		6.0	mg/L			10/18/23 14:09	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/18/23 14:09	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	47		6.0	mg/L			10/18/23 14:09	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 14:09	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 14:09	1
Total Dissolved Solids (SM 2540C)	13000		200	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			10/18/23 14:03	1
Temperature (SM 4500 H+ B)	13.8	H5 T5	0.1	Degrees C			10/18/23 14:03	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-5

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.6		0.50	mg/L			10/30/23 18:15	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.6		0.50	mg/L			10/30/23 18:15	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.6		0.50	mg/L			10/30/23 18:15	1

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-6

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:47	1
Manganese	2.8		0.010	mg/L		10/16/23 08:14	10/18/23 20:47	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		5.0	ug/L		10/16/23 09:20	10/18/23 15:31	10
Cobalt	ND		5.0	ug/L		10/16/23 09:20	10/18/23 15:31	10

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-7

Date Collected: 10/13/23 08:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78000	D2	1000	mg/L			10/28/23 03:54	500
Fluoride	19	D2	0.80	mg/L			10/14/23 18:44	2
Sulfate	69000	D2	1000	mg/L			10/28/23 03:54	500

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0078		0.0010	mg/L		10/16/23 08:14	10/18/23 20:50	1
Lithium	16	T5	0.020	mg/L		10/30/23 15:17	10/31/23 15:59	1
Boron	1000		1.3	mg/L		10/16/23 08:14	10/25/23 14:37	25
Calcium	130		2.0	mg/L		10/16/23 08:14	10/18/23 20:50	1
Iron	1.7		0.10	mg/L		10/16/23 08:14	10/18/23 20:50	1
Magnesium	19000		50	mg/L		10/16/23 08:14	10/25/23 14:37	25
Manganese	48		0.25	mg/L		10/16/23 08:14	10/25/23 14:37	25
Potassium	910		13	mg/L		10/16/23 08:14	10/25/23 14:37	25
Sodium	51000		50	mg/L		10/16/23 08:14	10/25/23 14:51	100

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.11		0.020	mg/L		10/16/23 09:20	10/18/23 15:12	20
Arsenic	0.76		0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20
Barium	0.14		0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20
Cadmium	ND		0.0020	mg/L		10/16/23 09:20	10/18/23 15:12	20
Chromium	ND		0.020	mg/L		10/16/23 09:20	10/18/23 15:12	20
Cobalt	0.020		0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20
Lead	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-7

Date Collected: 10/13/23 08:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	1.0	T5	0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20
Selenium	0.13		0.010	mg/L		10/16/23 09:20	10/18/23 15:12	20
Thallium	0.0022		0.0020	mg/L		10/16/23 09:20	10/18/23 15:12	20

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.15		0.050	mg/L			10/25/23 10:46	1
Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			10/18/23 14:13	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/18/23 14:13	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			10/18/23 14:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 14:13	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/18/23 14:13	1
Total Dissolved Solids (SM 2540C)	180000		1000	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	6.1	H5	1.7	SU			10/18/23 14:04	1
Temperature (SM 4500 H+ B)	14.0	H5 T5	0.1	Degrees C			10/18/23 14:04	1
Total Organic Carbon (SM 5310B)	130	D2	5.0	mg/L			10/26/23 22:02	10
Total Organic Carbon - Duplicates (SM 5310B)	130	D2	5.0	mg/L			10/26/23 22:02	10
Total Organic Carbon - Quad (SM 5310B)	130	D2	5.0	mg/L			10/26/23 22:02	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	140	D2	5.0	mg/L			10/30/23 18:33	10
Dissolved Organic Carbon - Duplicate (SM 5310B)	140	D2	5.0	mg/L			10/30/23 18:33	10
Dissolved Organic Carbon - Quad (SM 5310B)	140	D2	5.0	mg/L			10/30/23 18:33	10

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-8

Date Collected: 10/13/23 08:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.86		0.10	mg/L		10/16/23 08:14	10/18/23 20:53	1
Manganese	50		0.25	mg/L		10/16/23 08:14	10/25/23 14:42	25

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	770		10	ug/L		10/16/23 09:20	10/18/23 15:14	20
Cobalt	21		10	ug/L		10/16/23 09:20	10/18/23 15:14	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-309721/2
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/14/23 12:54	1
Fluoride	ND		0.40	mg/L			10/14/23 12:54	1
Sulfate	ND		2.0	mg/L			10/14/23 12:54	1

Lab Sample ID: LCS 550-309721/5
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.24		mg/L		106	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-309721/6
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.26		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 309721

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	ND		4.00	4.29		mg/L		101	80 - 120

Lab Sample ID: 550-209145-2 MSD
Matrix: Water
Analysis Batch: 309721

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.42		mg/L		104	80 - 120	3	20

Lab Sample ID: MB 550-310017/50
Matrix: Water
Analysis Batch: 310017

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/26/23 09:34	1
Fluoride	ND		0.40	mg/L			10/26/23 09:34	1
Sulfate	ND		2.0	mg/L			10/26/23 09:34	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-310017/51
Matrix: Water
Analysis Batch: 310017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.26		mg/L		106	90 - 110
Sulfate	20.0	20.7		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-310017/52
Matrix: Water
Analysis Batch: 310017

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.25		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-209060-G-2 DU
Matrix: Water
Analysis Batch: 310017

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride			ND		mg/L			20
Fluoride			ND		mg/L			20

Lab Sample ID: MB 550-310081/2
Matrix: Water
Analysis Batch: 310081

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/26/23 20:39	1
Fluoride	ND		0.40	mg/L			10/26/23 20:39	1
Sulfate	ND		2.0	mg/L			10/26/23 20:39	1

Lab Sample ID: LCS 550-310081/5
Matrix: Water
Analysis Batch: 310081

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-310081/6
Matrix: Water
Analysis Batch: 310081

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.29		mg/L		107	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209678-A-1 MS ^2
Matrix: Water
Analysis Batch: 310081

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	430	E2 M3	40.0	447	E2 M3	mg/L		49		80 - 120
Fluoride	ND		8.00	8.85		mg/L		104		80 - 120
Sulfate	200	E2	40.0	237	E2 M3	mg/L		89		80 - 120

Lab Sample ID: 550-209678-A-1 MSD ^2
Matrix: Water
Analysis Batch: 310081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD	Limit
	Result	Qualifier		Result	Qualifier								
Chloride	430	E2 M3	40.0	446	E2 M3	mg/L		45		80 - 120	0		20
Fluoride	ND		8.00	8.92		mg/L		105		80 - 120	1		20
Sulfate	200	E2	40.0	236	E2 M3	mg/L		88		80 - 120	0		20

Lab Sample ID: MB 550-310131/2
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		2.0	mg/L			10/27/23 12:54	1
Fluoride	ND		0.40	mg/L			10/27/23 12:54	1
Sulfate	ND		2.0	mg/L			10/27/23 12:54	1

Lab Sample ID: LCS 550-310131/5
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
Chloride	20.0	19.4		mg/L		97		90 - 110
Fluoride	4.00	4.11		mg/L		103		90 - 110
Sulfate	20.0	19.7		mg/L		98		90 - 110

Lab Sample ID: LCSD 550-310131/6
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD	Limit
Chloride	20.0	19.4		mg/L		97		90 - 110	0		20
Fluoride	4.00	4.09		mg/L		102		90 - 110	0		20
Sulfate	20.0	19.7		mg/L		98		90 - 110	0		20

Lab Sample ID: 550-209662-A-2 MS
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	210	E2 M3	20.0	218	E2 M3	mg/L		44		80 - 120
Fluoride	3.5		4.00	7.43		mg/L		98		80 - 120
Sulfate	280	E2 M3	20.0	283	E2 M3	mg/L		32		80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209662-A-2 MSD
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
Chloride	210	E2 M3	20.0	218	E2 M3	mg/L		45	80 - 120	0		20
Fluoride	3.5		4.00	7.56		mg/L		101	80 - 120	2		20
Sulfate	280	E2 M3	20.0	283	E2 M3	mg/L		34	80 - 120	0		20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309404/1-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309404

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Boron	ND		0.050	mg/L		10/16/23 08:14	10/18/23 20:19	1
Calcium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:19	1
Magnesium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Potassium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1
Sodium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1

Lab Sample ID: LCS 550-309404/2-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Beryllium	1.00	0.985		mg/L		99	85 - 115
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	20.9		mg/L		99	85 - 115
Iron	1.00	0.919		mg/L		92	85 - 115
Magnesium	21.0	20.4		mg/L		97	85 - 115
Manganese	1.00	0.954		mg/L		95	85 - 115
Potassium	20.0	20.0		mg/L		100	85 - 115
Sodium	20.0	19.7		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-309404/3-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Beryllium	1.00	1.00		mg/L		100	85 - 115	2	20
Boron	1.00	1.02		mg/L		102	85 - 115	1	20
Calcium	21.0	21.2		mg/L		101	85 - 115	2	20
Iron	1.00	0.934		mg/L		93	85 - 115	2	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20
Manganese	1.00	0.964		mg/L		96	85 - 115	1	20
Potassium	20.0	20.3		mg/L		101	85 - 115	2	20
Sodium	20.0	20.0		mg/L		100	85 - 115	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 309621

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Beryllium	ND		1.00	1.00		mg/L		100		70 - 130
Boron	0.21		1.00	1.24		mg/L		103		70 - 130
Calcium	130		21.0	151	M3	mg/L		78		70 - 130

Lab Sample ID: 550-209145-2 MSD
Matrix: Water
Analysis Batch: 309621

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Beryllium	ND		1.00	1.02		mg/L		102		70 - 130	2	20
Boron	0.21		1.00	1.25		mg/L		104		70 - 130	1	20
Calcium	130		21.0	153	M3	mg/L		87		70 - 130	1	20

Lab Sample ID: MB 280-631557/1-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631557

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		10/30/23 15:17	10/31/23 15:11	1

Lab Sample ID: LCS 280-631557/2-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
Lithium	1.00	0.979		mg/L		98		90 - 112

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Lithium	0.067	T5	1.00	1.07		mg/L		101		70 - 130

Lab Sample ID: 550-209145-2 MSD
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Lithium	0.067	T5	1.00	1.06		mg/L		99		70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309417/1-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309417

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Arsenic	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-309417/1-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309417

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Chromium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Lead	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Molybdenum	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Selenium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Thallium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1

Lab Sample ID: LCS 550-309417/2-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0978		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115
Barium	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.0986		mg/L		99	85 - 115
Chromium	0.100	0.0975		mg/L		98	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.0994		mg/L		99	85 - 115
Molybdenum	0.100	0.0970		mg/L		97	85 - 115
Selenium	0.100	0.0930		mg/L		93	85 - 115
Thallium	0.100	0.0944		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-309417/3-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0973		mg/L		97	85 - 115	1	20
Arsenic	0.100	0.0967		mg/L		97	85 - 115	0	20
Barium	0.100	0.111		mg/L		111	85 - 115	0	20
Cadmium	0.100	0.0980		mg/L		98	85 - 115	1	20
Chromium	0.100	0.0994		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	1	20
Lead	0.100	0.0980		mg/L		98	85 - 115	1	20
Molybdenum	0.100	0.0959		mg/L		96	85 - 115	1	20
Selenium	0.100	0.0938		mg/L		94	85 - 115	1	20
Thallium	0.100	0.0959		mg/L		96	85 - 115	2	20

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 309594

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0992		mg/L		99	70 - 130
Arsenic	0.0093		0.100	0.109		mg/L		100	70 - 130
Barium	0.028		0.100	0.136		mg/L		108	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 309594

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	ND		0.100	0.0962		mg/L		96	70 - 130
Chromium	ND		0.100	0.0974		mg/L		97	70 - 130
Cobalt	ND		0.100	0.0974		mg/L		97	70 - 130
Lead	ND		0.100	0.0953		mg/L		95	70 - 130
Molybdenum	ND	T5	0.100	0.102		mg/L		98	70 - 130
Selenium	ND		0.100	0.104		mg/L		104	70 - 130
Thallium	ND		0.100	0.0942		mg/L		94	70 - 130

Lab Sample ID: 550-209145-2 MSD
Matrix: Water
Analysis Batch: 309594

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0998		mg/L		100	70 - 130	1	20
Arsenic	0.0093		0.100	0.110		mg/L		101	70 - 130	1	20
Barium	0.028		0.100	0.141		mg/L		113	70 - 130	4	20
Cadmium	ND		0.100	0.0975		mg/L		97	70 - 130	1	20
Chromium	ND		0.100	0.0982		mg/L		98	70 - 130	1	20
Cobalt	ND		0.100	0.101		mg/L		101	70 - 130	3	20
Lead	ND		0.100	0.0924		mg/L		92	70 - 130	3	20
Molybdenum	ND	T5	0.100	0.103		mg/L		100	70 - 130	1	20
Selenium	ND		0.100	0.101		mg/L		101	70 - 130	4	20
Thallium	ND		0.100	0.0922		mg/L		92	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-309569/1-A
Matrix: Water
Analysis Batch: 309593

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309569

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/18/23 12:36	10/18/23 15:07	1

Lab Sample ID: LCS 550-309569/2-A
Matrix: Water
Analysis Batch: 309593

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309569

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00493		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-309569/3-A
Matrix: Water
Analysis Batch: 309593

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309569

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00471		mg/L		94	85 - 115	5	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-209145-2 MS
Matrix: Water
Analysis Batch: 309593

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309569

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00545		mg/L		109	70 - 130

Lab Sample ID: 550-209145-2 MSD
Matrix: Water
Analysis Batch: 309593

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA
Prep Batch: 309569

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00574		mg/L		115	70 - 130	5	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-309933/21
Matrix: Water
Analysis Batch: 309933

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/25/23 08:43	1

Lab Sample ID: LCS 550-309933/22
Matrix: Water
Analysis Batch: 309933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.956		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-309933/23
Matrix: Water
Analysis Batch: 309933

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.970		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-209100-A-1 MS
Matrix: Water
Analysis Batch: 309933

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.57		1.00	1.54		mg/L		97	90 - 110

Lab Sample ID: 550-209100-A-1 MSD
Matrix: Water
Analysis Batch: 309933

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.57		1.00	1.52		mg/L		95	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-630661/104
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/19/23 20:33	1

Lab Sample ID: 280-183024-D-2 MS
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.7		4.00	5.44		mg/L		94	90 - 110

Lab Sample ID: 280-183024-D-2 MSD
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.7		4.00	5.38		mg/L		92	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-309582/5
Matrix: Water
Analysis Batch: 309582

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/18/23 12:07	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/18/23 12:07	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/23 12:07	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/18/23 12:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/18/23 12:07	1

Lab Sample ID: LCS 550-309582/4
Matrix: Water
Analysis Batch: 309582

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	245		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-309582/16
Matrix: Water
Analysis Batch: 309582

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	243		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-209145-3 DU
Matrix: Water
Analysis Batch: 309582

Client Sample ID: CH-CCT-M64A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	430		426		mg/L		0.3	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-209145-3 DU
Matrix: Water
Analysis Batch: 309582

Client Sample ID: CH-CCT-M64A-1023
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Bicarbonate Alkalinity as CaCO3	430		426		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309445/1
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			10/16/23 14:41	1

Lab Sample ID: LCS 550-309445/2
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	1000	992		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309445/3
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Total Dissolved Solids	1000	972		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-209145-2 DU
Matrix: Water
Analysis Batch: 309445

Client Sample ID: CH-CCR-M63A-1023
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	1600		1570		mg/L		1	10

Lab Sample ID: MB 550-309541/1
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			10/18/23 10:06	1

Lab Sample ID: LCS 550-309541/2
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-309541/3
 Matrix: Water
 Analysis Batch: 309541

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-209096-A-1 DU
 Matrix: Water
 Analysis Batch: 309541

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300	R8	1480	R8	mg/L		13	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-309589/13
 Matrix: Water
 Analysis Batch: 309589

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/25
 Matrix: Water
 Analysis Batch: 309589

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/37
 Matrix: Water
 Analysis Batch: 309589

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: 550-209145-2 DU
 Matrix: Water
 Analysis Batch: 309589

Client Sample ID: CH-CCR-M63A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.7	H5	SU		0.3	5
Temperature	11.7	H5 T5	11.7	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-310115/5
 Matrix: Water
 Analysis Batch: 310115

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			10/26/23 20:01	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 550-310115/5
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	ND		0.50	mg/L			10/26/23 20:01	1
Total Organic Carbon - Quad	ND		0.50	mg/L			10/26/23 20:01	1

Lab Sample ID: LCS 550-310115/6
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Duplicates	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Quad	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-310115/7
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Quad	20.0	21.0		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-209321-B-1 MSD
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Duplicates	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Quad	9.3		20.0	28.3		mg/L		95	90 - 110	4	20

Lab Sample ID: 550-209321-E-1 MS
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Duplicates	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Quad	9.3		20.0	29.4		mg/L		101	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310248/5
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			10/30/23 15:16	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-310248/5
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			10/30/23 15:16	1

Lab Sample ID: LCS 550-310248/8
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310248/9
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	1	20

Lab Sample ID: 550-209145-3 MS
Matrix: Water
Analysis Batch: 310248

Client Sample ID: CH-CCT-M64A-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.2		mg/L		110	90 - 110

Lab Sample ID: 550-209145-3 MSD
Matrix: Water
Analysis Batch: 310248

Client Sample ID: CH-CCT-M64A-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 309721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	300.0	
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	300.0	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	300.0	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	300.0	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	300.0	
MB 550-309721/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309721/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309721/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	300.0	

Analysis Batch: 310017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	300.0	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	300.0	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	300.0	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	300.0	
MB 550-310017/50	Method Blank	Total/NA	Water	300.0	
LCS 550-310017/51	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310017/52	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	300.0	
550-209060-G-2 DU	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-310081/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310081/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310081/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209678-A-1 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-209678-A-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	300.0	
MB 550-310131/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310131/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310131/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209662-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-209662-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.7	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.7	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 309404 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-4	CH-CCT-M64A-1023	Dissolved	Water	200.7	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.7	
550-209145-6	CH-CCR-W123R-1023	Dissolved	Water	200.7	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7	
550-209145-8	CH-CCR-FAP-1023	Dissolved	Water	200.7	
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.7	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.7	

Prep Batch: 309417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.8	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.8	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.8	
550-209145-4	CH-CCT-M64A-1023	Dissolved	Water	200.8	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.8	
550-209145-6	CH-CCR-W123R-1023	Dissolved	Water	200.8	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.8	
550-209145-8	CH-CCR-FAP-1023	Dissolved	Water	200.8	
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.8	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.8	

Prep Batch: 309569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	245.1	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	245.1	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	245.1	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	245.1	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	245.1	
MB 550-309569/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-309569/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-309569/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	245.1	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	245.1	

Analysis Batch: 309593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	245.1	309569
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	245.1	309569
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	245.1	309569
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	245.1	309569
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	245.1	309569
MB 550-309569/1-A	Method Blank	Total/NA	Water	245.1	309569
LCS 550-309569/2-A	Lab Control Sample	Total/NA	Water	245.1	309569
LCSD 550-309569/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	309569
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	245.1	309569

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 309593 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	245.1	309569

Analysis Batch: 309594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.8 LL	309417
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.8 LL	309417
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.8 LL	309417
550-209145-4	CH-CCT-M64A-1023	Dissolved	Water	200.8 LL	309417
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.8 LL	309417
550-209145-6	CH-CCR-W123R-1023	Dissolved	Water	200.8 LL	309417
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.8 LL	309417
550-209145-8	CH-CCR-FAP-1023	Dissolved	Water	200.8 LL	309417
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8 LL	309417
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309417
LCS 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309417
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.8 LL	309417
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.8 LL	309417

Analysis Batch: 309621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-4	CH-CCT-M64A-1023	Dissolved	Water	200.7	309404
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-6	CH-CCR-W123R-1023	Dissolved	Water	200.7	309404
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-8	CH-CCR-FAP-1023	Dissolved	Water	200.7	309404
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309404
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309404
LCS 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	309404

Analysis Batch: 309959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-8	CH-CCR-FAP-1023	Dissolved	Water	200.7	309404

Prep Batch: 631557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.7	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.7	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.7	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.7	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7	
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 631557 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.7	
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.7	

Analysis Batch: 631988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	200.7 Rev 4.4	631557
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	631557
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-2 MS	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209145-2 MSD	CH-CCR-M63A-1023	Total/NA	Water	200.7 Rev 4.4	631557

General Chemistry

Analysis Batch: 309445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	SM 2540C	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	SM 2540C	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	SM 2540C	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	SM 2540C	
MB 550-309445/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309445/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309445/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209145-2 DU	CH-CCR-M63A-1023	Total/NA	Water	SM 2540C	

Analysis Batch: 309541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	SM 2540C	
MB 550-309541/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309541/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309541/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209096-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	SM 2320B	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	SM 2320B	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	SM 2320B	
MB 550-309582/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-309582/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-309582/16	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209145-3 DU	CH-CCT-M64A-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 309589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-1	CH-CCR-FD06-1023	Total/NA	Water	SM 4500 H+ B	
550-209145-2	CH-CCR-M63A-1023	Total/NA	Water	SM 4500 H+ B	
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 309589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	SM 4500 H+ B	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209145-2 DU	CH-CCR-M63A-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 309933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	350.1	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	350.1	
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	350.1	
MB 550-309933/21	Method Blank	Total/NA	Water	350.1	
LCS 550-309933/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-309933/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209100-A-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-209100-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 310115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-7	CH-CCR-FAP-1023	Total/NA	Water	SM 5310B	
MB 550-310115/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-310115/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-310115/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209321-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-209321-E-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 310248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-3	CH-CCT-M64A-1023	Dissolved	Water	SM 5310B	
550-209145-5	CH-CCR-W123R-1023	Dissolved	Water	SM 5310B	
550-209145-7	CH-CCR-FAP-1023	Dissolved	Water	SM 5310B	
MB 550-310248/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310248/8	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310248/9	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209145-3 MS	CH-CCT-M64A-1023	Dissolved	Water	SM 5310B	
550-209145-3 MSD	CH-CCT-M64A-1023	Dissolved	Water	SM 5310B	

Analysis Batch: 630661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209145-3	CH-CCT-M64A-1023	Total/NA	Water	353.2	
550-209145-5	CH-CCR-W123R-1023	Total/NA	Water	353.2	
MB 280-630661/104	Method Blank	Total/NA	Water	353.2	
LCS 280-630661/103	Lab Control Sample	Total/NA	Water	353.2	
280-183024-D-2 MS	Matrix Spike	Total/NA	Water	353.2	
280-183024-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD06-1023

Lab Sample ID: 550-209145-1

Date Collected: 10/11/23 13:31

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 15:40
Total/NA	Analysis	300.0		2	309721	MMH	EET PHX	10/14/23 15:58
Total/NA	Analysis	300.0		10	310017	MMH	EET PHX	10/26/23 15:15
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:36
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 15:19
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:22
Total/NA	Prep	245.1			309569	HHL	EET PHX	10/18/23 12:36
Total/NA	Analysis	245.1		1	309593	HHL	EET PHX	10/18/23 15:22
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:01

Client Sample ID: CH-CCR-M63A-1023

Lab Sample ID: 550-209145-2

Date Collected: 10/11/23 12:33

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 14:26
Total/NA	Analysis	300.0		2	309721	MMH	EET PHX	10/14/23 15:21
Total/NA	Analysis	300.0		10	310017	MMH	EET PHX	10/26/23 10:29
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:33
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 15:23
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:20
Total/NA	Prep	245.1			309569	HHL	EET PHX	10/18/23 12:36
Total/NA	Analysis	245.1		1	309593	HHL	EET PHX	10/18/23 15:20
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:09

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-3

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 16:17
Total/NA	Analysis	300.0		50	310017	MMH	EET PHX	10/26/23 12:02
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:39
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		10	309959	GLW	EET PHX	10/25/23 14:15

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-3

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 15:35
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:24
Total/NA	Prep	245.1			309569	HHL	EET PHX	10/18/23 12:36
Total/NA	Analysis	245.1		1	309593	HHL	EET PHX	10/18/23 15:24
Total/NA	Analysis	350.1		1	309933	MAN	EET PHX	10/25/23 08:52
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:53
Total/NA	Analysis	SM 2320B		1	309582	MAN	EET PHX	10/18/23 13:49
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:02
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 17:22

Client Sample ID: CH-CCT-M64A-1023

Lab Sample ID: 550-209145-4

Date Collected: 10/11/23 15:15

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 20:41
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:27

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-5

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 16:53
Total/NA	Analysis	300.0		50	310017	MMH	EET PHX	10/26/23 11:25
Total/NA	Analysis	300.0		100	310017	MMH	EET PHX	10/26/23 11:43
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:44
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		10	309959	GLW	EET PHX	10/25/23 14:18
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 15:55
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:29
Total/NA	Prep	245.1			309569	HHL	EET PHX	10/18/23 12:36
Total/NA	Analysis	245.1		1	309593	HHL	EET PHX	10/18/23 15:26
Total/NA	Analysis	350.1		1	309933	MAN	EET PHX	10/25/23 08:53
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 21:07
Total/NA	Analysis	SM 2320B		1	309582	MAN	EET PHX	10/18/23 14:09

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-5

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:03
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 18:15

Client Sample ID: CH-CCR-W123R-1023

Lab Sample ID: 550-209145-6

Date Collected: 10/11/23 13:52

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 20:47
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:31

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-7

Date Collected: 10/13/23 08:55

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309721	MMH	EET PHX	10/14/23 18:44
Total/NA	Analysis	300.0		500	310131	MMH	EET PHX	10/28/23 03:54
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:50
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		25	309959	GLW	EET PHX	10/25/23 14:37
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		100	309959	GLW	EET PHX	10/25/23 14:51
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 15:59
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		20	309594	DSJ	EET PHX	10/18/23 15:12
Total/NA	Prep	245.1			309569	HHL	EET PHX	10/18/23 12:36
Total/NA	Analysis	245.1		1	309593	HHL	EET PHX	10/18/23 15:28
Total/NA	Analysis	350.1		1	309933	MAN	EET PHX	10/25/23 10:46
Total/NA	Analysis	SM 2320B		1	309582	MAN	EET PHX	10/18/23 14:13
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:04
Dissolved	Analysis	SM 5310B		10	310248	RDC	EET PHX	10/30/23 18:33
Total/NA	Analysis	SM 5310B		10	310115	CXK	EET PHX	10/26/23 22:02

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FAP-1023

Lab Sample ID: 550-209145-8

Date Collected: 10/13/23 08:55

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 20:53
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		25	309959	GLW	EET PHX	10/25/23 14:42
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		20	309594	DSJ	EET PHX	10/18/23 15:14

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Lithium

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209145-1
SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

Client Contact: **Natalie Chrisman**
(602) 250-3608

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Lab Contact: **Pam Norris (505) 598-8781**
Carrier: **Danielle Roberts**
Date: _____
COC No: 2 of 2 COCs

TestAmerica Laboratories, Inc.
THE LEADER IN ENVIRONMENTAL TESTING

Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (FAP)
PO #: 300592358

Sample Identification

Filtered Sample (Y/N)
Perform MS / MSD (Y / N)
EPA 300.0 (Cl, F, SO4)
EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)
EPA 200.7 - Totals (B, Ca, Be)
EPA 200.7 - Total Lithium
EPA 200.7 - Dissolved (Fe, Mn)
EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)
EPA 200.8 - Dissolved (As, Co)
EPA 245.1 - Totals (Hg)
SM 4500-HB (pH)
SM 2540C (TDS)
SM 5310B (TOC)
SM 5310B (DOC)
SM 4500-NH3 D (NH3 as N)
353.2 (NO3+NO2 as N)
SM 2320B (CO3 Alk. as CaCO3)
SM 2320B (HCO3 Alk. as CaCO3)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:
CH-CCR-W123R-1023	10/11/23	1352	G	W	10	Low Flow
CH-CCR-FAP-1023	10/13/23	855	G	W	14	Surface Water Sample

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (CO3 Alk. as CaCO3)	SM 2320B (HCO3 Alk. as CaCO3)	
CH-CCR-W123R-1023	10/11/23	1352	G	W	10	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-FAP-1023	10/13/23	855	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No
Custody Seal No.: _____
Cooler Temp. (°C): Obs'd: _____
Therm ID No.: _____

Relinquished by: *[Signature]*
Company: *USP*
Date/Time: *10-13-23 16:49*

Relinquished by: *[Signature]*
Company: *FECS*
Date/Time: *10-13-23 16:49*

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013
Temp 20.4°C

Chain of Custody Record

Eurofins Phoenix
 4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Carrier Tracking No(s):

COC No:
550-38022.1

State of Origin:
Arizona

Page:
Page 1 of 1

Job #:
550-209145-1

Lab P.M.:
Eshelman, Linda

Preservation Codes:
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4.5
Y - Trizma
Z - other (specify)

E-Mail:
linda.eshelman@et.eurolins.com

Analysis Requested

Accreditations Required (See note):
State - Arizona; State Program - Arizona

Special Instructions/Note:

Due Date Requested:
10/26/2023

TAT Requested (days):

PO #:

WFO #:

Project #:
55009651

SSOW#:

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

200.7/200.7_P_TOT Lithium-Total

353.2_Pres

Total Number of Containers

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)

Preservation Code:

Water

Water

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Client Contact:
Shipping/Receiving

Company:
TestAmerica Laboratories, Inc.

Address:
4955 Yarrow Street,

City:
Arvada

State, Zip
CO, 80002

Phone:
303-736-0100(Tel) 303-431-7171(Fax)

Email:

Project Name:
CCR Groundwater Monitoring

Site:
Arizona Public Service

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)

Preservation Code:

Water

Water

Water

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Client Information (Sub Contract Lab)

Client Contact:

Shipping/Receiving

Company:

TestAmerica Laboratories, Inc.

Address:

4955 Yarrow Street,

City:

Arvada

State, Zip

CO, 80002

Phone:

303-736-0100(Tel) 303-431-7171(Fax)

Email:

Project Name:

CCR Groundwater Monitoring

Site:

Arizona Public Service

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)

Preservation Code:

Water

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Due Date Requested:

TAT Requested (days):

PO #:

WFO #:

Project #:

SSOW#:

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

200.7/200.7_P_TOT Lithium-Total

353.2_Pres

Total Number of Containers

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)

Preservation Code:

Water

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Carrier Tracking No(s):

COC No:
550-38022.1

Page:
Page 1 of 1

Job #:
550-209145-1

Lab P.M.:
Eshelman, Linda

State of Origin:
Arizona

Analysis Requested

Accreditations Required (See note):
State - Arizona; State Program - Arizona

Special Instructions/Note:

Field Filtered Sample (Yes or No)

Perform MS/MSD (Yes or No)

200.7/200.7_P_TOT Lithium-Total

353.2_Pres

Total Number of Containers

Special Instructions/Note:

Sample Identification - Client ID (Lab ID)

Sample Date

Sample Time

Sample Type (C=Comp, G=grab)

Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air)

Preservation Code:

Water

Water

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Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209145-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209145
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209145-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209145
List Number: 2
Creator: Held, Wesley

List Source: Eurofins Denver
List Creation: 10/17/23 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 11/14/2023 2:13:10 PM Revision 1

JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (FAP)

JOB NUMBER

550-209471-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Authorized for release by
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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
L3	The associated blank spike recovery was above method acceptance limits.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-209471-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209471-1

REVISION

The report being provided is a revision of the original report sent on 11/10/2023. The report (revision 1) is being revised due to Final report was sent out with duplicate 200.8 metals.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/20/2023 3:01 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.9°C, 2.1°C, 2.3°C, 3.1°C, 3.2°C and 4.6°C

HPLC/IC

Method 300_ORGFMS: The following samples were diluted due to the nature of the sample matrix: CH-CCR-M43A-1023 (550-209471-1), CH-CCR-M45A-1023 (550-209471-3), CH-CCR-W125-1023 (550-209471-16) and CH-CCR-BudHunt-1023 (550-209471-19). Elevated reporting limits (RLs) are provided. The following samples contain an analyte not part of the method profile which interferes with fluoride providing an indiscernible chromatogram. A 2x dilution is required.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 200.8_CWA_LL: The laboratory control sample (LCS) associated with preparation batch 550-309754 and analytical batch 550-309936 was outside acceptance criteria for Barium. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance. CH-CCR-M43A-1023 (550-209471-1), CH-CCR-M45A-1023 (550-209471-3), CH-CCR-M46A-1023 (550-209471-4), CH-CCR-M50A-1023 (550-209471-6), CH-CCR-M51A-1023 (550-209471-8), CH-CCR-M65A-1023 (550-209471-10), CH-CCR-M66A-1023 (550-209471-12), CH-CCR-M67A-1023 (550-209471-14), CH-CCR-W125-1023 (550-209471-16), CH-CCR-W-126R-1023 (550-209471-17) and CH-CCR-BudHunt-1023 (550-209471-19)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209471-1	CH-CCR-M43A-1023	Water	10/16/23 16:23	10/20/23 15:01
550-209471-2	CH-CCR-M43A-1023	Water	10/16/23 16:23	10/20/23 15:01
550-209471-3	CH-CCR-M45A-1023	Water	10/17/23 13:38	10/20/23 15:01
550-209471-4	CH-CCR-M46A-1023	Water	10/16/23 13:22	10/20/23 15:01
550-209471-5	CH-CCR-M46A-1023	Water	10/16/23 13:22	10/20/23 15:01
550-209471-6	CH-CCR-M50A-1023	Water	10/17/23 10:21	10/20/23 15:01
550-209471-7	CH-CCR-M50A-1023	Water	10/17/23 10:21	10/20/23 15:01
550-209471-8	CH-CCR-M51A-1023	Water	10/17/23 09:37	10/20/23 15:01
550-209471-9	CH-CCR-M51A-1023	Water	10/17/23 09:37	10/20/23 15:01
550-209471-10	CH-CCR-M65A-1023	Water	10/16/23 11:19	10/20/23 15:01
550-209471-11	CH-CCR-M65A-1023	Water	10/16/23 11:19	10/20/23 15:01
550-209471-12	CH-CCR-M66A-1023	Water	10/16/23 10:15	10/20/23 15:01
550-209471-13	CH-CCR-M66A-1023	Water	10/16/23 10:15	10/20/23 15:01
550-209471-14	CH-CCR-M67A-1023	Water	10/16/23 15:15	10/20/23 15:01
550-209471-15	CH-CCR-M67A-1023	Water	10/16/23 15:15	10/20/23 15:01
550-209471-16	CH-CCR-W125-1023	Water	10/17/23 11:16	10/20/23 15:01
550-209471-17	CH-CCR-W-126R-1023	Water	10/16/23 09:29	10/20/23 15:01
550-209471-18	CH-CCR-W-126R-1023	Water	10/16/23 09:29	10/20/23 15:01
550-209471-19	CH-CCR-BudHunt-1023	Water	10/17/23 08:40	10/20/23 15:01
550-209471-20	CH-CCR-BudHunt-1023	Water	10/17/23 08:40	10/20/23 15:01

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	210	D2	40	mg/L	20		300.0	Total/NA
Sulfate	1900	D2	40	mg/L	20		300.0	Total/NA
Boron	0.49		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	530	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.9		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.6		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.15		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0035		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.018	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0030	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.37		0.050	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6500		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.8		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.8		0.10	mg/L	1		200.7	Dissolved
Manganese	1.6		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.3		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M45A-1023

Lab Sample ID: 550-209471-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	700	D2	40	mg/L	20		300.0	Total/NA
Sulfate	2100	D2	200	mg/L	100		300.0	Total/NA
Boron	1.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	600		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.27		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0045		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.013	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0029	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Total Dissolved Solids	4700		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46A-1023

Lab Sample ID: 550-209471-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	40	mg/L	20		300.0	Total/NA
Fluoride	1.0	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.1		0.80	mg/L	2		9056A	Total/NA
Boron	0.64		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	950		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.3		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Euofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-1023 (Continued)

Lab Sample ID: 550-209471-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Potassium	13		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3200		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.35		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0063		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.020	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.0085		0.0050	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0091	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	1.1		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.8		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M46A-1023

Lab Sample ID: 550-209471-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.9		0.10	mg/L	1		200.7	Dissolved
Manganese	3.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.6		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	100	mg/L	50		300.0	Total/NA
Fluoride	2.5	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	100	mg/L	50		300.0	Total/NA
Fluoride	2.4	D1	0.80	mg/L	2		9056A	Total/NA
Boron	3.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.31		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	180		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.50		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0052		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0084	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0083	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	160		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7500		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.8		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.30		0.010	mg/L	1		200.7	Dissolved
Arsenic	5.2		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	200	mg/L	100		300.0	Total/NA
Fluoride	5.6	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	100	mg/L	50		300.0	Total/NA
Fluoride	5.7	D1	0.80	mg/L	2		9056A	Total/NA
Boron	27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	860		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3200		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.54		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.032		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.0077	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.16	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.12		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	77		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	77		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000		200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	31		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	3.0	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3700	D2	100	mg/L	50		300.0	Total/NA
Fluoride	3.0	D1	0.80	mg/L	2		9056A	Total/NA
Boron	14		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	830		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.43		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.22		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	360		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.73		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-1023 (Continued)

Lab Sample ID: 550-209471-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0040		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.021	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.18	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	230		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	4.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	4.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	4.0		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.29		0.10	mg/L	1		200.7	Dissolved
Manganese	0.23		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.8		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3800	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D1	0.80	mg/L	2		9056A	Total/NA
Boron	2.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.8		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.5		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.50		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0048		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.019	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.020		0.0050	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.015	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Selenium	0.0046		0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.067		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9900		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.7		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.7		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.7		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.7		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.7		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	40	mg/L	20		300.0	Total/NA
Fluoride	0.80	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	1800	D2	40	mg/L	20		300.0	Total/NA
Fluoride	0.83	D1	0.80	mg/L	2		9056A	Total/NA
Boron	0.35		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	4.0		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	770		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.20		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0053		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.034	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0057		0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.33		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	5000		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.3		0.10	mg/L	1		200.7	Dissolved
Manganese	1.4		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.2		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	4.8		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W125-1023

Lab Sample ID: 550-209471-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	720	D2	20	mg/L	10		300.0	Total/NA
Sulfate	320	D2	20	mg/L	10		300.0	Total/NA
Boron	0.15		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.069		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0058		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.020	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Total Dissolved Solids	1800		20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W125-1023 (Continued)

Lab Sample ID: 550-209471-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Temperature	9.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	200	mg/L	100		300.0	Total/NA
Fluoride	5.0	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3700	D2	100	mg/L	50		300.0	Total/NA
Boron	43		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.55		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	39		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	340		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.71		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0030		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0099	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0038		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.27	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.59		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	72		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	72		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000		200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.56		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.9		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	3.8		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-BudHunt-1023

Lab Sample ID: 550-209471-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	120	D2	4.0	mg/L	2		300.0	Total/NA
Sulfate	290	D2	20	mg/L	10		300.0	Total/NA
Boron	0.14		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	80		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.13		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	170		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	36		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.058		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0026		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.012	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-BudHunt-1023 (Continued)

Lab Sample ID: 550-209471-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	1100		20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-BudHunt-1023

Lab Sample ID: 550-209471-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.7		2.5	ug/L	5		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.



Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-1

Date Collected: 10/16/23 16:23

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	210	D2	40	mg/L			10/31/23 12:43	20
Fluoride	ND	D1 D5	0.80	mg/L			10/21/23 17:43	2
Sulfate	1900	D2	40	mg/L			10/21/23 18:01	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:33	1
Boron	0.49		0.050	mg/L		10/23/23 06:23	10/25/23 19:33	1
Calcium	530	M3	2.0	mg/L		10/23/23 06:23	10/25/23 19:33	1
Iron	1.9		0.10	mg/L		10/23/23 06:23	10/25/23 19:33	1
Manganese	1.6		0.010	mg/L		10/23/23 06:23	10/25/23 19:33	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.15		0.050	mg/L		10/25/23 08:04	10/27/23 16:00	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:53	5
Arsenic	0.0035		0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Barium	0.018	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:53	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:53	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Molybdenum	0.0030	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:53	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:53	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.37		0.050	mg/L			10/30/23 14:38	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 12:54	1
Total Dissolved Solids (SM 2540C)	6500		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/26/23 09:14	1
Temperature (SM 4500 H+ B)	9.2	H5 T5	0.1	Degrees C			10/26/23 09:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.8		0.50	mg/L			10/30/23 23:09	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.8		0.50	mg/L			10/30/23 23:09	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			10/30/23 23:09	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-2

Date Collected: 10/16/23 16:23

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.8		0.10	mg/L		10/23/23 06:23	10/25/23 19:36	1
Manganese	1.6		0.010	mg/L		10/23/23 06:23	10/25/23 19:36	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.3		2.5	ug/L		10/23/23 09:42	10/24/23 18:55	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 18:55	5

Client Sample ID: CH-CCR-M45A-1023

Lab Sample ID: 550-209471-3

Date Collected: 10/17/23 13:38

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	700	D2	40	mg/L			10/21/23 18:38	20
Fluoride	ND	D1 D5	0.80	mg/L			10/21/23 18:19	2
Sulfate	2100	D2	200	mg/L			10/31/23 02:29	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:39	1
Boron	1.0		0.050	mg/L		10/23/23 06:23	10/25/23 19:39	1
Calcium	600		2.0	mg/L		10/23/23 06:23	10/25/23 19:39	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.27		0.10	mg/L		10/25/23 08:04	10/27/23 16:41	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:49	5
Arsenic	0.0045		0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Barium	0.013	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:49	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:49	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Molybdenum	0.0029	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:49	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:49	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:38	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	4700		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/26/23 09:16	1
Temperature (SM 4500 H+ B)	9.5	H5 T5	0.1	Degrees C			10/26/23 09:16	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-1023

Lab Sample ID: 550-209471-4

Date Collected: 10/16/23 13:22

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	40	mg/L			10/21/23 20:10	20
Fluoride	1.0	D2	0.80	mg/L			10/21/23 19:51	2
Sulfate	2800	D2	200	mg/L			10/31/23 02:57	100

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.1		0.80	mg/L			11/02/23 16:40	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:42	1
Boron	0.64		0.050	mg/L		10/23/23 06:23	10/25/23 19:42	1
Calcium	950		2.0	mg/L		10/23/23 06:23	10/25/23 19:42	1
Iron	5.3		0.10	mg/L		10/23/23 06:23	10/25/23 19:42	1
Manganese	4.1		0.010	mg/L		10/23/23 06:23	10/25/23 19:42	1
Potassium	13		0.50	mg/L		10/23/23 06:23	10/25/23 19:42	1
Sodium	3200		5.0	mg/L		10/23/23 06:23	10/26/23 20:40	10
Magnesium	200		2.0	mg/L		10/23/23 06:23	10/25/23 19:42	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.35		0.10	mg/L		10/25/23 08:04	10/27/23 17:04	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:51	5
Arsenic	0.0063		0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Barium	0.020	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:51	5
Chromium	0.0085		0.0050	mg/L		10/23/23 09:42	10/24/23 18:51	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Molybdenum	0.0091	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:51	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:51	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.1		0.050	mg/L			10/30/23 14:42	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:00	1
Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			10/25/23 18:49	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 18:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			10/25/23 18:49	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 18:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 18:49	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M46A-1023

Lab Sample ID: 550-209471-4

Date Collected: 10/16/23 13:22

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/26/23 09:18	1
Temperature (SM 4500 H+ B)	8.3	H5 T5	0.1	Degrees C			10/26/23 09:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.8		0.50	mg/L			10/30/23 23:32	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.8		0.50	mg/L			10/30/23 23:32	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.8		0.50	mg/L			10/30/23 23:32	1

Client Sample ID: CH-CCR-M46A-1023

Lab Sample ID: 550-209471-5

Date Collected: 10/16/23 13:22

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.9		0.10	mg/L		10/23/23 06:23	10/25/23 19:45	1
Manganese	3.9		0.010	mg/L		10/23/23 06:23	10/25/23 19:45	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6		2.5	ug/L		10/23/23 09:42	10/24/23 18:57	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 18:57	5

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-6

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	100	mg/L			10/21/23 20:47	50
Fluoride	2.5	D2	0.80	mg/L			10/21/23 20:28	2
Sulfate	3000	D2	100	mg/L			10/21/23 20:47	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.4	D1	0.80	mg/L			11/02/23 18:48	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:48	1
Boron	3.0		0.050	mg/L		10/23/23 06:23	10/25/23 19:48	1
Calcium	570		2.0	mg/L		10/23/23 06:23	10/25/23 19:48	1
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 19:48	1
Manganese	0.31		0.010	mg/L		10/23/23 06:23	10/25/23 19:48	1
Potassium	5.7		0.50	mg/L		10/23/23 06:23	10/25/23 19:48	1
Sodium	1600		5.0	mg/L		10/23/23 06:23	10/26/23 20:43	10
Magnesium	180		2.0	mg/L		10/23/23 06:23	10/25/23 19:48	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-6

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.50		0.10	mg/L		10/25/23 08:04	10/27/23 17:07	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:59	5
Arsenic	0.0052		0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Barium	0.0084	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:59	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 18:59	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Molybdenum	0.0083	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 18:59	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:59	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 14:44	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:02	1
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			10/25/23 18:57	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 18:57	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			10/25/23 18:57	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 18:57	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 18:57	1
Total Dissolved Solids (SM 2540C)	7500		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/26/23 09:19	1
Temperature (SM 4500 H+ B)	8.1	H5 T5	0.1	Degrees C			10/26/23 09:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.8		0.50	mg/L			10/30/23 23:49	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.8		0.50	mg/L			10/30/23 23:49	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.8		0.50	mg/L			10/30/23 23:49	1

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-7

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 19:50	1
Manganese	0.30		0.010	mg/L		10/23/23 06:23	10/25/23 19:50	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-7

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.2		2.5	ug/L		10/23/23 09:42	10/24/23 19:01	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 19:01	5

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-8

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	200	mg/L			10/31/23 03:25	100
Fluoride	5.6	D2	0.80	mg/L			10/21/23 21:05	2
Sulfate	2800	D2	100	mg/L			10/21/23 21:23	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	5.7	D1	0.80	mg/L			11/02/23 19:07	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:53	1
Boron	27		0.050	mg/L		10/23/23 06:23	10/25/23 19:53	1
Calcium	860		2.0	mg/L		10/23/23 06:23	10/25/23 19:53	1
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 19:53	1
Manganese	1.1		0.010	mg/L		10/23/23 06:23	10/25/23 19:53	1
Potassium	27		0.50	mg/L		10/23/23 06:23	10/25/23 19:53	1
Sodium	3200		5.0	mg/L		10/23/23 06:23	10/26/23 20:46	10
Magnesium	250		2.0	mg/L		10/23/23 06:23	10/25/23 19:53	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.54		0.10	mg/L		10/25/23 08:04	10/27/23 17:09	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:03	5
Arsenic	0.032		0.0050	mg/L		10/23/23 09:42	10/27/23 18:43	10
Barium	0.0077	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:03	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:03	5
Chromium	ND		0.010	mg/L		10/23/23 09:42	10/27/23 18:43	10
Cobalt	ND		0.0050	mg/L		10/23/23 09:42	10/27/23 18:43	10
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:03	5
Molybdenum	0.16	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:03	5
Selenium	ND		0.0050	mg/L		10/23/23 09:42	10/27/23 18:43	10
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:03	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:44	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-8

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.12		0.050	mg/L			10/30/23 14:45	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:04	1
Alkalinity as CaCO3 (SM 2320B)	77		6.0	mg/L			10/25/23 19:04	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:04	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	77		6.0	mg/L			10/25/23 19:04	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:04	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:04	1
Total Dissolved Solids (SM 2540C)	14000		200	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/26/23 09:20	1
Temperature (SM 4500 H+ B)	8.2	H5 T5	0.1	Degrees C			10/26/23 09:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.1		0.50	mg/L			10/31/23 00:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.1		0.50	mg/L			10/31/23 00:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.1		0.50	mg/L			10/31/23 00:06	1

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-9

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 19:56	1
Manganese	1.1		0.010	mg/L		10/23/23 06:23	10/25/23 19:56	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	31		5.0	ug/L		10/23/23 09:42	10/27/23 18:45	10
Cobalt	ND		5.0	ug/L		10/23/23 09:42	10/27/23 18:45	10

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300	D2	100	mg/L			10/21/23 22:00	50
Fluoride	3.0	D2	0.80	mg/L			10/21/23 21:42	2
Sulfate	3700	D2	100	mg/L			10/21/23 22:00	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.0	D1	0.80	mg/L			11/02/23 19:25	2

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:59	1
Boron	14		0.050	mg/L		10/23/23 06:23	10/25/23 19:59	1
Calcium	830		2.0	mg/L		10/23/23 06:23	10/25/23 19:59	1
Iron	0.43		0.10	mg/L		10/23/23 06:23	10/25/23 19:59	1
Manganese	0.22		0.010	mg/L		10/23/23 06:23	10/25/23 19:59	1
Potassium	33		0.50	mg/L		10/23/23 06:23	10/25/23 19:59	1
Sodium	2900		5.0	mg/L		10/23/23 06:23	10/26/23 20:49	10
Magnesium	360		2.0	mg/L		10/23/23 06:23	10/25/23 19:59	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.73		0.10	mg/L		10/25/23 08:04	11/01/23 10:52	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:07	5
Arsenic	0.0040		0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Barium	0.021	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:07	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:07	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Molybdenum	0.18	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:07	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:07	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 14:47	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:06	1
Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			10/25/23 19:10	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	230		6.0	mg/L			10/25/23 19:10	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:10	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:10	1
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	6.9	H5	1.7	SU			10/26/23 09:21	1
Temperature (SM 4500 H+ B)	9.1	H5 T5	0.1	Degrees C			10/26/23 09:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	4.0		0.50	mg/L			10/31/23 00:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	4.0		0.50	mg/L			10/31/23 00:29	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad (SM 5310B)	4.0		0.50	mg/L			10/31/23 00:29	1

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-11

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.29		0.10	mg/L		10/23/23 06:23	10/25/23 20:07	1
Manganese	0.23		0.010	mg/L		10/23/23 06:23	10/25/23 20:07	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.8		2.5	ug/L		10/23/23 09:42	10/24/23 19:15	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 19:15	5

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-12

Date Collected: 10/16/23 10:15

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3800	D2	100	mg/L			10/21/23 23:32	50
Fluoride	1.4	D2	0.80	mg/L			10/21/23 22:19	2
Sulfate	3000	D2	100	mg/L			10/21/23 23:32	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.4	D1	0.80	mg/L			11/02/23 19:44	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 20:10	1
Boron	2.0		0.050	mg/L		10/23/23 06:23	10/25/23 20:10	1
Calcium	740		2.0	mg/L		10/23/23 06:23	10/25/23 20:10	1
Iron	1.8		0.10	mg/L		10/23/23 06:23	10/25/23 20:10	1
Manganese	2.9		0.010	mg/L		10/23/23 06:23	10/25/23 20:10	1
Potassium	6.5		0.50	mg/L		10/23/23 06:23	10/25/23 20:10	1
Sodium	2600		5.0	mg/L		10/23/23 06:23	10/26/23 20:52	10
Magnesium	250		2.0	mg/L		10/23/23 06:23	10/25/23 20:10	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.50		0.10	mg/L		10/25/23 08:04	11/01/23 10:55	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:17	5
Arsenic	0.0048		0.0025	mg/L		10/23/23 09:42	10/24/23 19:17	5
Barium	0.019	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:17	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:17	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-12

Date Collected: 10/16/23 10:15

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.020		0.0050	mg/L		10/23/23 09:42	10/24/23 19:17	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:17	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/27/23 18:47	5
Molybdenum	0.015	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:17	5
Selenium	0.0046		0.0025	mg/L		10/23/23 09:42	10/24/23 19:17	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:47	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.067		0.050	mg/L			10/30/23 14:48	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:08	1
Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			10/25/23 19:18	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:18	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			10/25/23 19:18	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:18	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:18	1
Total Dissolved Solids (SM 2540C)	9900		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/26/23 09:22	1
Temperature (SM 4500 H+ B)	9.7	H5 T5	0.1	Degrees C			10/26/23 09:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.7		0.50	mg/L			11/07/23 23:43	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.7		0.50	mg/L			11/07/23 23:43	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.7		0.50	mg/L			11/07/23 23:43	1

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-13

Date Collected: 10/16/23 10:15

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 20:13	1
Manganese	2.7		0.010	mg/L		10/23/23 06:23	10/25/23 20:13	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		2.5	ug/L		10/23/23 09:42	10/24/23 19:19	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 19:19	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-14

Date Collected: 10/16/23 15:15

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	40	mg/L			10/22/23 00:09	20
Fluoride	0.80	D2	0.80	mg/L			10/21/23 23:51	2
Sulfate	1800	D2	40	mg/L			10/22/23 00:09	20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.83	D1	0.80	mg/L			11/02/23 20:02	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 20:16	1
Boron	0.35		0.050	mg/L		10/23/23 06:23	10/25/23 20:16	1
Calcium	520		2.0	mg/L		10/23/23 06:23	10/25/23 20:16	1
Iron	4.0		0.10	mg/L		10/23/23 06:23	10/25/23 20:16	1
Manganese	1.5		0.010	mg/L		10/23/23 06:23	10/25/23 20:16	1
Potassium	12		0.50	mg/L		10/23/23 06:23	10/25/23 20:16	1
Sodium	770		0.50	mg/L		10/23/23 06:23	10/25/23 20:16	1
Magnesium	220		2.0	mg/L		10/23/23 06:23	10/25/23 20:16	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.050	mg/L		10/25/23 08:04	10/27/23 16:32	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:21	5
Arsenic	0.0053		0.0025	mg/L		10/23/23 09:42	10/24/23 19:21	5
Barium	0.034	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:21	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:21	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:21	5
Cobalt	0.0057		0.0025	mg/L		10/23/23 09:42	10/24/23 19:21	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/27/23 18:49	5
Molybdenum	ND	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:21	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:21	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:49	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.33		0.050	mg/L			10/30/23 14:50	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:10	1
Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			10/25/23 19:25	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:25	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	240		6.0	mg/L			10/25/23 19:25	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:25	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:25	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-14

Date Collected: 10/16/23 15:15

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	5000		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/26/23 09:23	1
Temperature (SM 4500 H+ B)	9.8	H5 T5	0.1	Degrees C			10/26/23 09:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			11/08/23 00:38	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			11/08/23 00:38	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			11/08/23 00:38	1

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-15

Date Collected: 10/16/23 15:15

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.3		0.10	mg/L		10/23/23 06:23	10/25/23 20:19	1
Manganese	1.4		0.010	mg/L		10/23/23 06:23	10/25/23 20:19	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		2.5	ug/L		10/23/23 09:42	10/24/23 19:23	5
Cobalt	4.8		2.5	ug/L		10/23/23 09:42	10/24/23 19:23	5

Client Sample ID: CH-CCR-W125-1023

Lab Sample ID: 550-209471-16

Date Collected: 10/17/23 11:16

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	720	D2	20	mg/L			10/22/23 00:46	10
Fluoride	ND	D1 D5	0.80	mg/L			10/22/23 00:27	2
Sulfate	320	D2	20	mg/L			10/22/23 00:46	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 20:22	1
Boron	0.15		0.050	mg/L		10/23/23 06:23	10/25/23 20:22	1
Calcium	110		2.0	mg/L		10/23/23 06:23	10/25/23 20:22	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.069		0.050	mg/L		10/25/23 08:04	10/27/23 16:34	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:25	5
Arsenic	0.0058		0.0025	mg/L		10/23/23 09:42	10/24/23 19:25	5
Barium	0.020	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:25	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W125-1023

Lab Sample ID: 550-209471-16

Date Collected: 10/17/23 11:16

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:25	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:25	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:25	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/27/23 18:51	5
Molybdenum	ND	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:25	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:25	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:51	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:56	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	1800		20	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 09:25	1
Temperature (SM 4500 H+ B)	9.6	H5 T5	0.1	Degrees C			10/26/23 09:25	1

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-17

Date Collected: 10/16/23 09:29

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	200	mg/L			10/31/23 05:17	100
Fluoride	5.0	D2	0.80	mg/L			10/22/23 01:04	2
Sulfate	3700	D2	100	mg/L			10/22/23 01:23	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 20:24	1
Boron	43		0.050	mg/L		10/23/23 06:23	10/25/23 20:24	1
Calcium	740		2.0	mg/L		10/23/23 06:23	10/25/23 20:24	1
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 20:24	1
Manganese	0.55		0.010	mg/L		10/23/23 06:23	10/25/23 20:24	1
Potassium	39		0.50	mg/L		10/23/23 06:23	10/25/23 20:24	1
Sodium	3600		5.0	mg/L		10/23/23 06:23	10/26/23 20:55	10
Magnesium	340		2.0	mg/L		10/23/23 06:23	10/25/23 20:24	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.71		0.10	mg/L		10/25/23 08:04	10/27/23 17:22	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:27	5
Arsenic	0.0030		0.0025	mg/L		10/23/23 09:42	10/24/23 19:27	5
Barium	0.0099	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:27	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:27	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:27	5
Cobalt	0.0038		0.0025	mg/L		10/23/23 09:42	10/24/23 19:27	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-17

Date Collected: 10/16/23 09:29

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/27/23 18:53	5
Molybdenum	0.27	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:27	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:27	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:53	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.59		0.050	mg/L			10/30/23 14:51	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:12	1
Alkalinity as CaCO3 (SM 2320B)	72		6.0	mg/L			10/25/23 19:34	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:34	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	72		6.0	mg/L			10/25/23 19:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:34	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:34	1
Total Dissolved Solids (SM 2540C)	14000		200	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 09:26	1
Temperature (SM 4500 H+ B)	9.0	H5 T5	0.1	Degrees C			10/26/23 09:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.1		0.50	mg/L			11/08/23 01:00	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.1		0.50	mg/L			11/08/23 01:00	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.1		0.50	mg/L			11/08/23 01:00	1

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-18

Date Collected: 10/16/23 09:29

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 20:27	1
Manganese	0.56		0.010	mg/L		10/23/23 06:23	10/25/23 20:27	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.9		2.5	ug/L		10/23/23 09:42	10/24/23 19:29	5
Cobalt	3.8		2.5	ug/L		10/23/23 09:42	10/24/23 19:29	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-BudHunt-1023

Lab Sample ID: 550-209471-19

Date Collected: 10/17/23 08:40

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	D2	4.0	mg/L			10/22/23 01:41	2
Fluoride	ND	D1 D5	0.80	mg/L			10/22/23 01:41	2
Sulfate	290	D2	20	mg/L			10/22/23 01:59	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 20:30	1
Boron	0.14		0.050	mg/L		10/23/23 06:23	10/25/23 20:30	1
Calcium	80		2.0	mg/L		10/23/23 06:23	10/25/23 20:30	1
Iron	0.13		0.10	mg/L		10/23/23 06:23	10/25/23 20:30	1
Manganese	ND		0.010	mg/L		10/23/23 06:23	10/25/23 20:30	1
Potassium	2.8		0.50	mg/L		10/23/23 06:23	10/25/23 20:30	1
Sodium	170		0.50	mg/L		10/23/23 06:23	10/25/23 20:30	1
Magnesium	36		2.0	mg/L		10/23/23 06:23	10/25/23 20:30	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.058		0.050	mg/L		10/25/23 08:04	10/27/23 16:39	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:31	5
Arsenic	0.0026		0.0025	mg/L		10/23/23 09:42	10/24/23 19:31	5
Barium	0.012	L3	0.0025	mg/L		10/23/23 09:42	10/24/23 19:31	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 19:31	5
Chromium	ND		0.0050	mg/L		10/23/23 09:42	10/24/23 19:31	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:31	5
Lead	ND		0.0025	mg/L		10/23/23 09:42	10/27/23 18:55	5
Molybdenum	ND	T5	0.0025	mg/L		10/23/23 09:42	10/24/23 19:31	5
Selenium	ND		0.0025	mg/L		10/23/23 09:42	10/24/23 19:31	5
Thallium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:55	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 16:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 14:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:26	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/25/23 19:39	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/25/23 19:39	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/25/23 19:39	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:39	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/25/23 19:39	1
Total Dissolved Solids (SM 2540C)	1100		20	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			10/26/23 09:27	1
Temperature (SM 4500 H+ B)	9.7	H5 T5	0.1	Degrees C			10/26/23 09:27	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-BudHunt-1023

Lab Sample ID: 550-209471-19

Date Collected: 10/17/23 08:40

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	ND		0.50	mg/L			11/08/23 01:16	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	ND		0.50	mg/L			11/08/23 01:16	1
Dissolved Organic Carbon - Quad (SM 5310B)	ND		0.50	mg/L			11/08/23 01:16	1

Client Sample ID: CH-CCR-BudHunt-1023

Lab Sample ID: 550-209471-20

Date Collected: 10/17/23 08:40

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 20:33	1
Manganese	ND		0.010	mg/L		10/23/23 06:23	10/25/23 20:33	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		2.5	ug/L		10/23/23 09:42	10/24/23 19:33	5
Cobalt	ND		2.5	ug/L		10/23/23 09:42	10/24/23 19:33	5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-309850/2
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/21/23 14:27	1
Fluoride	ND		0.40	mg/L			10/21/23 14:27	1
Sulfate	ND		2.0	mg/L			10/21/23 14:27	1

Lab Sample ID: LCS 550-309850/5
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-309850/6
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.35		mg/L		109	90 - 110	1	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-209102-A-1 MS ^10
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	290	D2	200	500	D2	mg/L		103	80 - 120
Fluoride	ND		40.0	43.1	D2	mg/L		105	80 - 120
Sulfate	480	D2	200	670	D2	mg/L		96	80 - 120

Lab Sample ID: 550-209102-A-1 MSD ^10
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	290	D2	200	499	D2	mg/L		103	80 - 120	0	20
Fluoride	ND		40.0	43.0	D2	mg/L		105	80 - 120	0	20
Sulfate	480	D2	200	670	D2	mg/L		95	80 - 120	0	20

Lab Sample ID: MB 550-310211/2
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/30/23 10:10	1
Fluoride	ND		0.40	mg/L			10/30/23 10:10	1
Sulfate	ND		2.0	mg/L			10/30/23 10:10	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-310211/5
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	18.9		mg/L		94	90 - 110
Fluoride	4.00	4.01		mg/L		100	90 - 110
Sulfate	20.0	19.0		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-310211/6
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	18.9		mg/L		95	90 - 110	0	20
Fluoride	4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.0		mg/L		95	90 - 110	0	20

Lab Sample ID: 550-209568-B-5 MS ^10
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	29		200	221		mg/L		96	80 - 120
Fluoride	ND		40.0	41.0		mg/L		101	80 - 120
Sulfate	340		200	514		mg/L		86	80 - 120

Lab Sample ID: 550-209568-B-5 MSD ^10
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29		200	222		mg/L		97	80 - 120	0	20
Fluoride	ND		40.0	41.3		mg/L		101	80 - 120	1	20
Sulfate	340		200	511		mg/L		85	80 - 120	1	20

Lab Sample ID: MB 550-310213/2
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/30/23 10:46	1
Fluoride	ND		0.40	mg/L			10/30/23 10:46	1
Sulfate	ND		2.0	mg/L			10/30/23 10:46	1

Lab Sample ID: LCS 550-310213/5
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.23		mg/L		106	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-310213/6
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.23		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-209476-A-15 MS
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	790	E2 M3	20.0	786	E2 M3	mg/L		-11	80 - 120
Fluoride	0.50		4.00	4.12		mg/L		90	80 - 120
Sulfate	1300	E2 M3	20.0	1290	E2 M3	mg/L		-125	80 - 120

Lab Sample ID: 550-209476-A-15 MSD
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	790	E2 M3	20.0	786	E2 M3	mg/L		-11	80 - 120	0	20
Fluoride	0.50		4.00	4.23		mg/L		93	80 - 120	3	20
Sulfate	1300	E2 M3	20.0	1290	E2 M3	mg/L		-130	80 - 120	0	20

Lab Sample ID: MB 550-310443/2
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/02/23 09:54	1
Fluoride	ND		0.40	mg/L			11/02/23 09:54	1
Sulfate	ND		2.0	mg/L			11/02/23 09:54	1

Lab Sample ID: LCS 550-310443/5
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-310443/6
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	1	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209471-4 MS
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1800	E2	40.0	1770	E2 M3	mg/L		9	80 - 120
Fluoride	1.1		8.00	8.87		mg/L		98	80 - 120
Sulfate	1300	E2	40.0	1340	E2 M3	mg/L		29	80 - 120

Lab Sample ID: 550-209471-4 MSD
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1800	E2	40.0	1760	E2 M3	mg/L		-5	80 - 120	0	20
Fluoride	1.1		8.00	8.72		mg/L		96	80 - 120	2	20
Sulfate	1300	E2	40.0	1340	E2 M3	mg/L		11	80 - 120	1	20

Lab Sample ID: 550-209876-D-1 MS
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	360	E2 M3	20.0	357	E2 M3	mg/L		-7	80 - 120
Fluoride	ND		4.00	4.27		mg/L		100	80 - 120
Sulfate	320	E2 M3	20.0	322	E2 M3	mg/L		12	80 - 120

Lab Sample ID: 550-209876-D-1 MSD
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	360	E2 M3	20.0	357	E2 M3	mg/L		-6	80 - 120	0	20
Fluoride	ND		4.00	4.33		mg/L		101	80 - 120	1	20
Sulfate	320	E2 M3	20.0	322	E2 M3	mg/L		12	80 - 120	0	20

Lab Sample ID: 550-209471-4 DU
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	DU Result	DU Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1800	E2		1750	E2	mg/L				0.9	20
Fluoride	1.1			1.04		mg/L				1	20
Sulfate	1300	E2		1320	E2	mg/L				1	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 550-209471-4 MS
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	1.1		8.00	8.87		mg/L		98	80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209471-4 MSD
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	1.1		8.00	8.72		mg/L		96	80 - 120	2	20

Lab Sample ID: 550-209471-4 DU
Matrix: Water
Analysis Batch: 310443

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	1.1		1.04		mg/L		1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309745/1-A
Matrix: Water
Analysis Batch: 309989

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309745

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:23	10/25/23 19:19	1
Boron	ND		0.050	mg/L		10/23/23 06:23	10/25/23 19:19	1
Calcium	ND		2.0	mg/L		10/23/23 06:23	10/25/23 19:19	1
Iron	ND		0.10	mg/L		10/23/23 06:23	10/25/23 19:19	1
Manganese	ND		0.010	mg/L		10/23/23 06:23	10/25/23 19:19	1
Potassium	ND		0.50	mg/L		10/23/23 06:23	10/25/23 19:19	1
Sodium	ND		0.50	mg/L		10/23/23 06:23	10/25/23 19:19	1
Magnesium	ND		2.0	mg/L		10/23/23 06:23	10/25/23 19:19	1

Lab Sample ID: LCS 550-309745/2-A
Matrix: Water
Analysis Batch: 309989

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309745

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.963		mg/L		96	85 - 115
Boron	1.00	1.02		mg/L		102	85 - 115
Calcium	21.0	20.6		mg/L		98	85 - 115
Iron	1.00	0.830		mg/L		83	85 - 115
Manganese	1.00	0.935		mg/L		94	85 - 115
Potassium	20.0	18.9		mg/L		95	85 - 115
Sodium	20.0	19.0		mg/L		95	85 - 115
Magnesium	21.0	20.0		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-309745/3-A
Matrix: Water
Analysis Batch: 309989

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309745

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.966		mg/L		97	85 - 115	0	20
Boron	1.00	1.02		mg/L		102	85 - 115	0	20
Calcium	21.0	20.7		mg/L		99	85 - 115	1	20
Iron	1.00	0.829		mg/L		83	85 - 115	0	20
Manganese	1.00	0.930		mg/L		93	85 - 115	1	20
Potassium	20.0	19.0		mg/L		95	85 - 115	0	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-309745/3-A
Matrix: Water
Analysis Batch: 309989

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309745

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	20.0	19.1		mg/L		96	85 - 115	1	20
Magnesium	21.0	20.1		mg/L		96	85 - 115	0	20

Lab Sample ID: 550-209471-1 MS
Matrix: Water
Analysis Batch: 309989

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA
Prep Batch: 309745

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	0.995		mg/L		100	70 - 130
Boron	0.49		1.00	1.55		mg/L		106	70 - 130
Calcium	530	M3	21.0	529	M3	mg/L		-7	70 - 130
Iron	1.9		1.00	2.75		mg/L		86	70 - 130
Manganese	1.6		1.00	2.48		mg/L		83	70 - 130
Potassium	8.2		20.0	29.3		mg/L		106	70 - 130
Magnesium	180	M3	21.0	192	M3	mg/L		61	70 - 130

Lab Sample ID: 550-209471-1 MSD
Matrix: Water
Analysis Batch: 309989

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA
Prep Batch: 309745

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.01		mg/L		101	70 - 130	2	20
Boron	0.49		1.00	1.56		mg/L		107	70 - 130	1	20
Calcium	530	M3	21.0	545	M3	mg/L		65	70 - 130	3	20
Iron	1.9		1.00	2.80		mg/L		91	70 - 130	2	20
Manganese	1.6		1.00	2.51		mg/L		86	70 - 130	1	20
Potassium	8.2		20.0	30.0		mg/L		109	70 - 130	2	20
Magnesium	180	M3	21.0	197	M3	mg/L		84	70 - 130	2	20

Lab Sample ID: MB 570-376967/1-A
Matrix: Water
Analysis Batch: 378051

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 376967

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.050	mg/L		10/25/23 08:04	10/27/23 16:50	1

Lab Sample ID: LCS 570-376967/2-A
Matrix: Water
Analysis Batch: 378051

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 376967

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.500	0.536		mg/L		107	85 - 115

Lab Sample ID: LCSD 570-376967/3-A
Matrix: Water
Analysis Batch: 378051

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 376967

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.500	0.531		mg/L		106	85 - 115	1	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209471-8 MS
Matrix: Water
Analysis Batch: 378051

Client Sample ID: CH-CCR-M51A-1023
Prep Type: Total Recoverable
Prep Batch: 376967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.54		0.500	1.13		mg/L		117	80 - 120

Lab Sample ID: 550-209471-8 MSD
Matrix: Water
Analysis Batch: 378051

Client Sample ID: CH-CCR-M51A-1023
Prep Type: Total Recoverable
Prep Batch: 376967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.54		0.500	1.12		mg/L		115	80 - 120	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309754/1-A
Matrix: Water
Analysis Batch: 309936

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309754

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/23/23 09:42	10/24/23 18:34	1
Arsenic	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Barium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Cadmium	ND		0.00010	mg/L		10/23/23 09:42	10/24/23 18:34	1
Chromium	ND		0.0010	mg/L		10/23/23 09:42	10/24/23 18:34	1
Cobalt	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Lead	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Molybdenum	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Selenium	ND		0.00050	mg/L		10/23/23 09:42	10/24/23 18:34	1
Thallium	ND		0.00010	mg/L		10/23/23 09:42	10/24/23 18:34	1

Lab Sample ID: MB 550-309754/1-A
Matrix: Water
Analysis Batch: 310201

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309754

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/23/23 09:42	10/27/23 18:33	1
Arsenic	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Barium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Cadmium	ND		0.00010	mg/L		10/23/23 09:42	10/27/23 18:33	1
Chromium	ND		0.0010	mg/L		10/23/23 09:42	10/27/23 18:33	1
Cobalt	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Lead	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Molybdenum	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Selenium	ND		0.00050	mg/L		10/23/23 09:42	10/27/23 18:33	1
Thallium	ND		0.00010	mg/L		10/23/23 09:42	10/27/23 18:33	1

Lab Sample ID: LCS 550-309754/2-A
Matrix: Water
Analysis Batch: 309936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.104		mg/L		104	85 - 115
Arsenic	0.100	0.102		mg/L		102	85 - 115

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309754/2-A
Matrix: Water
Analysis Batch: 309936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Barium	0.100	0.125	L3	mg/L		125	85 - 115	
Cadmium	0.100	0.102		mg/L		102	85 - 115	
Chromium	0.100	0.106		mg/L		106	85 - 115	
Cobalt	0.100	0.110		mg/L		110	85 - 115	
Lead	0.100	0.108		mg/L		108	85 - 115	
Molybdenum	0.100	0.102		mg/L		102	85 - 115	
Selenium	0.100	0.100		mg/L		100	85 - 115	
Thallium	0.100	0.108		mg/L		108	85 - 115	

Lab Sample ID: LCS 550-309754/2-A
Matrix: Water
Analysis Batch: 310201

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Antimony	0.100	0.0878		mg/L		88	85 - 115	
Arsenic	0.100	0.0926		mg/L		93	85 - 115	
Barium	0.100	0.0973		mg/L		97	85 - 115	
Cadmium	0.100	0.0945		mg/L		94	85 - 115	
Chromium	0.100	0.0946		mg/L		95	85 - 115	
Cobalt	0.100	0.0941		mg/L		94	85 - 115	
Lead	0.100	0.0963		mg/L		96	85 - 115	
Molybdenum	0.100	0.0958		mg/L		96	85 - 115	
Selenium	0.100	0.0906		mg/L		91	85 - 115	
Thallium	0.100	0.0937		mg/L		94	85 - 115	

Lab Sample ID: LCSD 550-309754/3-A
Matrix: Water
Analysis Batch: 309936

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Antimony	0.100	0.0995		mg/L		100	85 - 115	5	20	
Arsenic	0.100	0.0989		mg/L		99	85 - 115	3	20	
Barium	0.100	0.119	L3	mg/L		119	85 - 115	4	20	
Cadmium	0.100	0.0978		mg/L		98	85 - 115	4	20	
Chromium	0.100	0.103		mg/L		103	85 - 115	2	20	
Cobalt	0.100	0.107		mg/L		107	85 - 115	3	20	
Lead	0.100	0.104		mg/L		104	85 - 115	4	20	
Molybdenum	0.100	0.0968		mg/L		97	85 - 115	5	20	
Selenium	0.100	0.0983		mg/L		98	85 - 115	2	20	
Thallium	0.100	0.108		mg/L		108	85 - 115	1	20	

Lab Sample ID: LCSD 550-309754/3-A
Matrix: Water
Analysis Batch: 310201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Antimony	0.100	0.0905		mg/L		90	85 - 115	3	20	
Arsenic	0.100	0.0924		mg/L		92	85 - 115	0	20	
Barium	0.100	0.100		mg/L		100	85 - 115	3	20	

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-309754/3-A
Matrix: Water
Analysis Batch: 310201

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cadmium	0.100	0.0953		mg/L		95	85 - 115	1	20
Chromium	0.100	0.0944		mg/L		94	85 - 115	0	20
Cobalt	0.100	0.0946		mg/L		95	85 - 115	0	20
Lead	0.100	0.0955		mg/L		96	85 - 115	1	20
Molybdenum	0.100	0.0971		mg/L		97	85 - 115	1	20
Selenium	0.100	0.0898		mg/L		90	85 - 115	1	20
Thallium	0.100	0.0944		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-209471-3 MS
Matrix: Water
Analysis Batch: 309936

Client Sample ID: CH-CCR-M45A-1023
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.103		mg/L		103	70 - 130		
Antimony	ND		0.100	0.103		mg/L		103	70 - 130		
Arsenic	0.0045		0.100	0.103		mg/L		98	70 - 130		
Arsenic	0.0045		0.100	0.103		mg/L		98	70 - 130		
Barium	0.013	L3	0.100	0.131		mg/L		118	70 - 130		
Barium	0.013	L3	0.100	0.131		mg/L		118	70 - 130		
Cadmium	ND		0.100	0.0969		mg/L		97	70 - 130		
Cadmium	ND		0.100	0.0969		mg/L		97	70 - 130		
Chromium	ND		0.100	0.0972		mg/L		97	70 - 130		
Chromium	ND		0.100	0.0972		mg/L		97	70 - 130		
Cobalt	ND		0.100	0.102		mg/L		101	70 - 130		
Cobalt	ND		0.100	0.102		mg/L		101	70 - 130		
Lead	ND		0.100	0.0957		mg/L		96	70 - 130		
Lead	ND		0.100	0.0957		mg/L		96	70 - 130		
Molybdenum	0.0029	T5	0.100	0.103		mg/L		100	70 - 130		
Molybdenum	0.0029	T5	0.100	0.103		mg/L		100	70 - 130		
Selenium	ND		0.100	0.0961		mg/L		96	70 - 130		
Selenium	ND		0.100	0.0961		mg/L		96	70 - 130		
Thallium	ND		0.100	0.0937		mg/L		94	70 - 130		
Thallium	ND		0.100	0.0937		mg/L		94	70 - 130		

Lab Sample ID: 550-209471-3 MSD
Matrix: Water
Analysis Batch: 309936

Client Sample ID: CH-CCR-M45A-1023
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	1	20
Antimony	ND		0.100	0.104		mg/L		104	70 - 130	1	20
Arsenic	0.0045		0.100	0.103		mg/L		99	70 - 130	1	20
Arsenic	0.0045		0.100	0.103		mg/L		99	70 - 130	1	20
Barium	0.013	L3	0.100	0.134		mg/L		121	70 - 130	2	20
Barium	0.013	L3	0.100	0.134		mg/L		121	70 - 130	2	20
Cadmium	ND		0.100	0.0973		mg/L		97	70 - 130	0	20
Cadmium	ND		0.100	0.0973		mg/L		97	70 - 130	0	20
Chromium	ND		0.100	0.0977		mg/L		98	70 - 130	0	20
Chromium	ND		0.100	0.0977		mg/L		98	70 - 130	0	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209471-3 MSD
Matrix: Water
Analysis Batch: 309936

Client Sample ID: CH-CCR-M45A-1023
Prep Type: Total/NA
Prep Batch: 309754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Cobalt	ND		0.100	0.102		mg/L		101	70 - 130	0	20	
Cobalt	ND		0.100	0.102		mg/L		101	70 - 130	0	20	
Lead	ND		0.100	0.0954		mg/L		95	70 - 130	0	20	
Lead	ND		0.100	0.0954		mg/L		95	70 - 130	0	20	
Molybdenum	0.0029	T5	0.100	0.103		mg/L		100	70 - 130	1	20	
Molybdenum	0.0029	T5	0.100	0.103		mg/L		100	70 - 130	1	20	
Selenium	ND		0.100	0.0935		mg/L		93	70 - 130	3	20	
Selenium	ND		0.100	0.0935		mg/L		93	70 - 130	3	20	
Thallium	ND		0.100	0.0939		mg/L		94	70 - 130	0	20	
Thallium	ND		0.100	0.0939		mg/L		94	70 - 130	0	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-310014/1-A
Matrix: Water
Analysis Batch: 310057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 310014

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		10/26/23 12:18	10/26/23 14:55	1

Lab Sample ID: LCS 550-310014/2-A
Matrix: Water
Analysis Batch: 310057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 310014

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Mercury	0.00500	0.00480		mg/L		96	85 - 115	

Lab Sample ID: LCSD 550-310014/3-A
Matrix: Water
Analysis Batch: 310057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 310014

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.00500	0.00444		mg/L		89	85 - 115	8	20	

Lab Sample ID: 550-209471-17 MS
Matrix: Water
Analysis Batch: 310057

Client Sample ID: CH-CCR-W-126R-1023
Prep Type: Total/NA
Prep Batch: 310014

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Mercury	ND		0.00500	0.00546		mg/L		109	70 - 130	

Lab Sample ID: 550-209570-B-2-E MSD
Matrix: Water
Analysis Batch: 310057

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 310014

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Mercury	ND		0.00500	0.00448		mg/L		90	70 - 130	2	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310263/159
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 14:33	1

Lab Sample ID: LCS 550-310263/160
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.916		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310263/161
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.936		mg/L		94	90 - 110	2	20

Lab Sample ID: 550-209471-1 MS
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.37		1.00	1.40		mg/L		103	90 - 110

Lab Sample ID: 550-209471-1 MSD
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.37		1.00	1.36		mg/L		99	90 - 110	3	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-631180/22
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/25/23 12:52	1

Lab Sample ID: LCS 280-631180/21
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.01		mg/L		100	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 550-209471-1 MS
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	3.88		mg/L		97	90 - 110

Lab Sample ID: 550-209471-1 MSD
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-M43A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.83		mg/L		96	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-309971/4
Matrix: Water
Analysis Batch: 309971

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/25/23 15:28	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/25/23 15:28	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/25/23 15:28	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/25/23 15:28	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/25/23 15:28	1

Lab Sample ID: LCS 550-309971/3
Matrix: Water
Analysis Batch: 309971

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-309971/13
Matrix: Water
Analysis Batch: 309971

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	243		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-209588-D-1 DU
Matrix: Water
Analysis Batch: 309971

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	210		208		mg/L		0	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	210		208		mg/L		0	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309802/1
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/23/23 15:06	1

Lab Sample ID: LCS 550-309802/2
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	998		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309802/3
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	992		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-209293-A-2 DU
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1100		1170		mg/L		4	10

Lab Sample ID: 550-209471-4 DU
Matrix: Water
Analysis Batch: 309802

Client Sample ID: CH-CCR-M46A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000		11900		mg/L		1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-310003/1
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310003/13
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-310003/25
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310003/37
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: 550-209471-3 DU
Matrix: Water
Analysis Batch: 310003

Client Sample ID: CH-CCR-M45A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	H5	7.3		SU		0	5
Temperature	9.5	H5 T5	9.4		Degrees C		1	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310248/5
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			10/30/23 15:16	1

Lab Sample ID: LCS 550-310248/8
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310248/9
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	1	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209145-A-3 MSD
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dissolved Organic Carbon	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20

Lab Sample ID: 550-209145-C-3 MS
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dissolved Organic Carbon	5.2	M1	20.0	27.2		mg/L		110	90 - 110		
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.2		mg/L		110	90 - 110		
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.2		mg/L		110	90 - 110		

Lab Sample ID: MB 550-310716/3
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Dissolved Organic Carbon	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/07/23 22:41	1

Lab Sample ID: LCS 550-310716/5
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110		
Dissolved Organic Carbon - Duplicate	20.0	19.3		mg/L		97	90 - 110		
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-310716/30
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Dissolved Organic Carbon	20.0	19.3		mg/L		96	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.0		mg/L		95	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	19.3		mg/L		96	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209471-12 MS
Matrix: Water
Analysis Batch: 310716

Client Sample ID: CH-CCR-M66A-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	2.7		20.0	22.8		mg/L		100	90 - 110
Dissolved Organic Carbon - Duplicate	2.7		20.0	22.8		mg/L		100	90 - 110
Dissolved Organic Carbon - Quad	2.7		20.0	22.8		mg/L		100	90 - 110

Lab Sample ID: 550-209471-12 MSD
Matrix: Water
Analysis Batch: 310716

Client Sample ID: CH-CCR-M66A-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.7		20.0	21.4		mg/L		93	90 - 110	6	20
Dissolved Organic Carbon - Duplicate	2.7		20.0	21.4		mg/L		93	90 - 110	6	20
Dissolved Organic Carbon - Quad	2.7		20.0	21.4		mg/L		93	90 - 110	6	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 309850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	300.0	
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	300.0	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	300.0	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	300.0	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	300.0	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	300.0	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	300.0	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	300.0	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	300.0	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	300.0	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	300.0	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	300.0	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	300.0	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	300.0	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	300.0	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	300.0	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	300.0	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	300.0	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	300.0	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	300.0	
MB 550-309850/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309850/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309850/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209102-A-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-209102-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	300.0	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	300.0	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	300.0	
MB 550-310211/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310211/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310211/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209568-B-5 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-209568-B-5 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	300.0	
MB 550-310213/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310213/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310213/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209476-A-15 MS	Matrix Spike	Total/NA	Water	300.0	
550-209476-A-15 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 310443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	9056A	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	9056A	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	9056A	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	9056A	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	9056A	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	9056A	
MB 550-310443/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310443/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310443/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209471-4 MS	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-4 MS	CH-CCR-M46A-1023	Total/NA	Water	9056A	
550-209471-4 MSD	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-4 MSD	CH-CCR-M46A-1023	Total/NA	Water	9056A	
550-209876-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209876-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-209471-4 DU	CH-CCR-M46A-1023	Total/NA	Water	300.0	
550-209471-4 DU	CH-CCR-M46A-1023	Total/NA	Water	9056A	

Metals

Prep Batch: 309745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	200.7	
550-209471-2	CH-CCR-M43A-1023	Dissolved	Water	200.7	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	200.7	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	200.7	
550-209471-5	CH-CCR-M46A-1023	Dissolved	Water	200.7	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	200.7	
550-209471-7	CH-CCR-M50A-1023	Dissolved	Water	200.7	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.7	
550-209471-9	CH-CCR-M51A-1023	Dissolved	Water	200.7	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	200.7	
550-209471-11	CH-CCR-M65A-1023	Dissolved	Water	200.7	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.7	
550-209471-13	CH-CCR-M66A-1023	Dissolved	Water	200.7	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	200.7	
550-209471-15	CH-CCR-M67A-1023	Dissolved	Water	200.7	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	200.7	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.7	
550-209471-18	CH-CCR-W-126R-1023	Dissolved	Water	200.7	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	200.7	
550-209471-20	CH-CCR-BudHunt-1023	Dissolved	Water	200.7	
MB 550-309745/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309745/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309745/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209471-1 MS	CH-CCR-M43A-1023	Total/NA	Water	200.7	
550-209471-1 MSD	CH-CCR-M43A-1023	Total/NA	Water	200.7	

Prep Batch: 309754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	200.8	

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 309754 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-2	CH-CCR-M43A-1023	Dissolved	Water	200.8	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	200.8	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	200.8	
550-209471-5	CH-CCR-M46A-1023	Dissolved	Water	200.8	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	200.8	
550-209471-7	CH-CCR-M50A-1023	Dissolved	Water	200.8	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.8	
550-209471-9	CH-CCR-M51A-1023	Dissolved	Water	200.8	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	200.8	
550-209471-11	CH-CCR-M65A-1023	Dissolved	Water	200.8	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.8	
550-209471-13	CH-CCR-M66A-1023	Dissolved	Water	200.8	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	200.8	
550-209471-15	CH-CCR-M67A-1023	Dissolved	Water	200.8	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	200.8	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.8	
550-209471-18	CH-CCR-W-126R-1023	Dissolved	Water	200.8	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	200.8	
550-209471-20	CH-CCR-BudHunt-1023	Dissolved	Water	200.8	
MB 550-309754/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309754/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309754/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209471-3 MS	CH-CCR-M45A-1023	Total/NA	Water	200.8	
550-209471-3 MSD	CH-CCR-M45A-1023	Total/NA	Water	200.8	

Analysis Batch: 309936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	200.8 LL	309754
550-209471-2	CH-CCR-M43A-1023	Dissolved	Water	200.8 LL	309754
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	200.8 LL	309754
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	200.8 LL	309754
550-209471-5	CH-CCR-M46A-1023	Dissolved	Water	200.8 LL	309754
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	200.8 LL	309754
550-209471-7	CH-CCR-M50A-1023	Dissolved	Water	200.8 LL	309754
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.8 LL	309754
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	200.8 LL	309754
550-209471-11	CH-CCR-M65A-1023	Dissolved	Water	200.8 LL	309754
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.8 LL	309754
550-209471-13	CH-CCR-M66A-1023	Dissolved	Water	200.8 LL	309754
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	200.8 LL	309754
550-209471-15	CH-CCR-M67A-1023	Dissolved	Water	200.8 LL	309754
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	200.8 LL	309754
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.8 LL	309754
550-209471-18	CH-CCR-W-126R-1023	Dissolved	Water	200.8 LL	309754
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	200.8 LL	309754
550-209471-20	CH-CCR-BudHunt-1023	Dissolved	Water	200.8 LL	309754
MB 550-309754/1-A	Method Blank	Total/NA	Water	200.8 LL	309754
LCS 550-309754/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309754
LCSD 550-309754/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309754
550-209471-3 MS	CH-CCR-M45A-1023	Total/NA	Water	200.8 LL	309754
550-209471-3 MSD	CH-CCR-M45A-1023	Total/NA	Water	200.8 LL	309754

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Metals

Analysis Batch: 309989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-2	CH-CCR-M43A-1023	Dissolved	Water	200.7	309745
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-5	CH-CCR-M46A-1023	Dissolved	Water	200.7	309745
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-7	CH-CCR-M50A-1023	Dissolved	Water	200.7	309745
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-9	CH-CCR-M51A-1023	Dissolved	Water	200.7	309745
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-11	CH-CCR-M65A-1023	Dissolved	Water	200.7	309745
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-13	CH-CCR-M66A-1023	Dissolved	Water	200.7	309745
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-15	CH-CCR-M67A-1023	Dissolved	Water	200.7	309745
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-18	CH-CCR-W-126R-1023	Dissolved	Water	200.7	309745
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-20	CH-CCR-BudHunt-1023	Dissolved	Water	200.7	309745
MB 550-309745/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309745
LCS 550-309745/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309745
LCSD 550-309745/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-1 MS	CH-CCR-M43A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-1 MSD	CH-CCR-M43A-1023	Total/NA	Water	200.7 Rev 4.4	309745

Prep Batch: 310014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	245.1	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	245.1	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	245.1	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	245.1	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	245.1	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	245.1	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	245.1	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	245.1	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	245.1	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	245.1	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	245.1	
MB 550-310014/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-310014/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-310014/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209471-17 MS	CH-CCR-W-126R-1023	Total/NA	Water	245.1	
550-209570-B-2-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 310057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	245.1	310014
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	245.1	310014
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	245.1	310014
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	245.1	310014

Eurofins Phoenix

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 310057 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	245.1	310014
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	245.1	310014
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	245.1	310014
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	245.1	310014
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	245.1	310014
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	245.1	310014
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	245.1	310014
MB 550-310014/1-A	Method Blank	Total/NA	Water	245.1	310014
LCS 550-310014/2-A	Lab Control Sample	Total/NA	Water	245.1	310014
LCSD 550-310014/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	310014
550-209471-17 MS	CH-CCR-W-126R-1023	Total/NA	Water	245.1	310014
550-209570-B-2-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	310014

Analysis Batch: 310151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.7 Rev 4.4	309745
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.7 Rev 4.4	309745

Analysis Batch: 310201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	200.8 LL	309754
550-209471-9	CH-CCR-M51A-1023	Dissolved	Water	200.8 LL	309754
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	200.8 LL	309754
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	200.8 LL	309754
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	200.8 LL	309754
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	200.8 LL	309754
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	200.8 LL	309754
MB 550-309754/1-A	Method Blank	Total/NA	Water	200.8 LL	309754
LCS 550-309754/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309754
LCSD 550-309754/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309754

Prep Batch: 376967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total Recoverable	Water	200.7	
550-209471-3	CH-CCR-M45A-1023	Total Recoverable	Water	200.7	
550-209471-4	CH-CCR-M46A-1023	Total Recoverable	Water	200.7	
550-209471-6	CH-CCR-M50A-1023	Total Recoverable	Water	200.7	
550-209471-8	CH-CCR-M51A-1023	Total Recoverable	Water	200.7	
550-209471-10	CH-CCR-M65A-1023	Total Recoverable	Water	200.7	
550-209471-12	CH-CCR-M66A-1023	Total Recoverable	Water	200.7	
550-209471-14	CH-CCR-M67A-1023	Total Recoverable	Water	200.7	
550-209471-16	CH-CCR-W125-1023	Total Recoverable	Water	200.7	
550-209471-17	CH-CCR-W-126R-1023	Total Recoverable	Water	200.7	
550-209471-19	CH-CCR-BudHunt-1023	Total Recoverable	Water	200.7	
MB 570-376967/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-376967/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-376967/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	

Eurofins Phoenix

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 376967 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-8 MS	CH-CCR-M51A-1023	Total Recoverable	Water	200.7	
550-209471-8 MSD	CH-CCR-M51A-1023	Total Recoverable	Water	200.7	

Analysis Batch: 378051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-3	CH-CCR-M45A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-4	CH-CCR-M46A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-6	CH-CCR-M50A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-8	CH-CCR-M51A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-14	CH-CCR-M67A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-16	CH-CCR-W125-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-17	CH-CCR-W-126R-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-19	CH-CCR-BudHunt-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
MB 570-376967/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	376967
LCS 570-376967/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	376967
LCSD 570-376967/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-8 MS	CH-CCR-M51A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-8 MSD	CH-CCR-M51A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967

Analysis Batch: 379296

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-10	CH-CCR-M65A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967
550-209471-12	CH-CCR-M66A-1023	Total Recoverable	Water	200.7 Rev 4.4	376967

General Chemistry

Analysis Batch: 309802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	SM 2540C	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	SM 2540C	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	SM 2540C	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	SM 2540C	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	SM 2540C	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	SM 2540C	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	SM 2540C	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	SM 2540C	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	SM 2540C	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	SM 2540C	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	SM 2540C	
MB 550-309802/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309802/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309802/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209293-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	
550-209471-4 DU	CH-CCR-M46A-1023	Total/NA	Water	SM 2540C	

Analysis Batch: 309971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	SM 2320B	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	SM 2320B	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	SM 2320B	

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 309971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	SM 2320B	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	SM 2320B	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	SM 2320B	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	SM 2320B	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	SM 2320B	
MB 550-309971/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-309971/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-309971/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209588-D-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 310003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-3	CH-CCR-M45A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-16	CH-CCR-W125-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	SM 4500 H+ B	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209471-3 DU	CH-CCR-M45A-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 310248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Dissolved	Water	SM 5310B	
550-209471-4	CH-CCR-M46A-1023	Dissolved	Water	SM 5310B	
550-209471-6	CH-CCR-M50A-1023	Dissolved	Water	SM 5310B	
550-209471-8	CH-CCR-M51A-1023	Dissolved	Water	SM 5310B	
550-209471-10	CH-CCR-M65A-1023	Dissolved	Water	SM 5310B	
MB 550-310248/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310248/8	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310248/9	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209145-A-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209145-C-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 310263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	350.1	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	350.1	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	350.1	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	350.1	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	350.1	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	350.1	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	350.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 310263 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	350.1	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	350.1	
MB 550-310263/159	Method Blank	Total/NA	Water	350.1	
LCS 550-310263/160	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310263/161	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209471-1 MS	CH-CCR-M43A-1023	Total/NA	Water	350.1	
550-209471-1 MSD	CH-CCR-M43A-1023	Total/NA	Water	350.1	

Analysis Batch: 310716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-12	CH-CCR-M66A-1023	Dissolved	Water	SM 5310B	
550-209471-14	CH-CCR-M67A-1023	Dissolved	Water	SM 5310B	
550-209471-17	CH-CCR-W-126R-1023	Dissolved	Water	SM 5310B	
550-209471-19	CH-CCR-BudHunt-1023	Dissolved	Water	SM 5310B	
MB 550-310716/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310716/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310716/30	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209471-12 MS	CH-CCR-M66A-1023	Dissolved	Water	SM 5310B	
550-209471-12 MSD	CH-CCR-M66A-1023	Dissolved	Water	SM 5310B	

Analysis Batch: 631180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-1	CH-CCR-M43A-1023	Total/NA	Water	353.2	
550-209471-4	CH-CCR-M46A-1023	Total/NA	Water	353.2	
550-209471-6	CH-CCR-M50A-1023	Total/NA	Water	353.2	
550-209471-8	CH-CCR-M51A-1023	Total/NA	Water	353.2	
550-209471-10	CH-CCR-M65A-1023	Total/NA	Water	353.2	
550-209471-12	CH-CCR-M66A-1023	Total/NA	Water	353.2	
550-209471-14	CH-CCR-M67A-1023	Total/NA	Water	353.2	
550-209471-17	CH-CCR-W-126R-1023	Total/NA	Water	353.2	
550-209471-19	CH-CCR-BudHunt-1023	Total/NA	Water	353.2	
MB 280-631180/22	Method Blank	Total/NA	Water	353.2	
LCS 280-631180/21	Lab Control Sample	Total/NA	Water	353.2	
550-209471-1 MS	CH-CCR-M43A-1023	Total/NA	Water	353.2	
550-209471-1 MSD	CH-CCR-M43A-1023	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-1

Date Collected: 10/16/23 16:23

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 17:43
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/21/23 18:01
Total/NA	Analysis	300.0		20	310213	MMH	EET PHX	10/31/23 12:43
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		1	378051	P1R	EET CAL 4	10/27/23 16:00
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:33
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:53
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:36
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:38
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 12:54
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:14
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 23:09

Client Sample ID: CH-CCR-M43A-1023

Lab Sample ID: 550-209471-2

Date Collected: 10/16/23 16:23

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 19:36
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:55

Client Sample ID: CH-CCR-M45A-1023

Lab Sample ID: 550-209471-3

Date Collected: 10/17/23 13:38

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 18:19
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/21/23 18:38
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/31/23 02:29
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	378051	P1R	EET CAL 4	10/27/23 16:41
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:39
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:49
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:38
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹

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Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M45A-1023
Date Collected: 10/17/23 13:38
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:16

Client Sample ID: CH-CCR-M46A-1023
Date Collected: 10/16/23 13:22
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 19:51
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/21/23 20:10
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/31/23 02:57
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 16:40
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	378051	P1R	EET CAL 4	10/27/23 17:04
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:42
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:40
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:51
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:40
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:42
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:00
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 18:49
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:18
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 23:32

Client Sample ID: CH-CCR-M46A-1023
Date Collected: 10/16/23 13:22
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 19:45
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:57

Client Sample ID: CH-CCR-M50A-1023
Date Collected: 10/17/23 10:21
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 20:28

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-6

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/21/23 20:47
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 18:48
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	378051	P1R	EET CAL 4	10/27/23 17:07
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:48
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:43
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 18:59
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:42
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:44
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:02
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 18:57
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:19
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 23:49

Client Sample ID: CH-CCR-M50A-1023

Lab Sample ID: 550-209471-7

Date Collected: 10/17/23 10:21

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 19:50
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:01

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-8

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 21:05
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/21/23 21:23
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/31/23 03:25
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 19:07
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	378051	P1R	EET CAL 4	10/27/23 17:09
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:53
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:46

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-8

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:03
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		10	310201	DSJ	EET PHX	10/27/23 18:43
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:44
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:45
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:04
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:04
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:20
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/31/23 00:06

Client Sample ID: CH-CCR-M51A-1023

Lab Sample ID: 550-209471-9

Date Collected: 10/17/23 09:37

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 19:56
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		10	310201	DSJ	EET PHX	10/27/23 18:45

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 21:42
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/21/23 22:00
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 19:25
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	379296	K1UV	EET CAL 4	11/01/23 10:52
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 19:59
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:49
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:07
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:50
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:47
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:06
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:10

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-10

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:21
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/31/23 00:29

Client Sample ID: CH-CCR-M65A-1023

Lab Sample ID: 550-209471-11

Date Collected: 10/16/23 11:19

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 20:07
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:15

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-12

Date Collected: 10/16/23 10:15

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 22:19
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/21/23 23:32
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 19:44
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	379296	K1UV	EET CAL 4	11/01/23 10:55
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 20:10
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:52
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:17
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	310201	DSJ	EET PHX	10/27/23 18:47
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:52
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:48
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:08
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:18
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:22
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/07/23 23:43

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M66A-1023

Lab Sample ID: 550-209471-13

Date Collected: 10/16/23 10:15

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 20:13
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:19

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-14

Date Collected: 10/16/23 15:15

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/21/23 23:51
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/22/23 00:09
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 20:02
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		1	378051	P1R	EET CAL 4	10/27/23 16:32
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 20:16
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:21
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	310201	DSJ	EET PHX	10/27/23 18:49
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:54
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:50
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:10
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:25
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:23
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 00:38

Client Sample ID: CH-CCR-M67A-1023

Lab Sample ID: 550-209471-15

Date Collected: 10/16/23 15:15

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 20:19
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:23

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W125-1023

Lab Sample ID: 550-209471-16

Date Collected: 10/17/23 11:16

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 00:27
Total/NA	Analysis	300.0		10	309850	MMH	EET PHX	10/22/23 00:46
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		1	378051	P1R	EET CAL 4	10/27/23 16:34
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 20:22
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:25
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	310201	DSJ	EET PHX	10/27/23 18:51
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:56
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:25

Client Sample ID: CH-CCR-W-126R-1023

Lab Sample ID: 550-209471-17

Date Collected: 10/16/23 09:29

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 01:04
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 01:23
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/31/23 05:17
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		2	378051	P1R	EET CAL 4	10/27/23 17:22
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 20:24
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		10	310151	GLW	EET PHX	10/26/23 20:55
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:27
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	310201	DSJ	EET PHX	10/27/23 18:53
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 15:28
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:51
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:12
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:34
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:26
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 01:00

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W-126R-1023
Date Collected: 10/16/23 09:29
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 20:27
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:29

Client Sample ID: CH-CCR-BudHunt-1023
Date Collected: 10/17/23 08:40
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-19
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 01:41
Total/NA	Analysis	300.0		10	309850	MMH	EET PHX	10/22/23 01:59
Total Recoverable	Prep	200.7			376967	JP8N	EET CAL 4	10/25/23 08:04
Total Recoverable	Analysis	200.7 Rev 4.4		1	378051	P1R	EET CAL 4	10/27/23 16:39
Total/NA	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Total/NA	Analysis	200.7 Rev 4.4		1	309989	GLW	EET PHX	10/25/23 20:30
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:31
Total/NA	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Total/NA	Analysis	200.8 LL		5	310201	DSJ	EET PHX	10/27/23 18:55
Total/NA	Prep	245.1			310014	HHL	EET PHX	10/26/23 12:18
Total/NA	Analysis	245.1		1	310057	HHL	EET PHX	10/26/23 16:01
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:53
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:26
Total/NA	Analysis	SM 2320B		1	309971	MAN	EET PHX	10/25/23 19:39
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:27
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 01:16

Client Sample ID: CH-CCR-BudHunt-1023
Date Collected: 10/17/23 08:40
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209471-20
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309745	SGO	EET PHX	10/23/23 06:23
Dissolved	Analysis	200.7		1	309989	GLW	EET PHX	10/25/23 20:33
Dissolved	Prep	200.8			309754	SGO	EET PHX	10/23/23 09:42
Dissolved	Analysis	200.8 LL		5	309936	DSJ	EET PHX	10/24/23 19:33

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
 EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
 EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23 *

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209471-1
SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
9056A	Anions, Ion Chromatography	SW846	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100


EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

Date: 209471

TestAmerica Laboratories, Inc.

Client Contact		Natalie Chrisman (602) 250-3608		Lab Contact: Danielle Roberts Pam Norris (505) 598-8781		Date: 209471		COC No: 1 of 2 COCs			
Arizona Public Service 4801 Cholla Lake Rd Joseph City, AZ 86032 (928) 587-0319		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Carrier: _____		Sampler: _____ For Lab Use Only: _____ Walk-in Client: _____ Lab Sampling: _____		Job / SDG No.: _____		Sample Specific Notes: Low flow	
Project Name: CCR Groundwater Monitoring Site: AFS Cholla Power Plant (FAP) PO #: 300592358		Sample Identification		Sample Date		Sample Time		Sample Type (G=Comp, G=Grab)		# of Cont.	
CH-CCR-M43A-1023		1+2		10/16/23		1623		G		10	
CH-CCR-M45A-1023		3		10/17/23		1338		G		3	
CH-CCR-M46A-1023		4+5		10/16/23		1322		G		11	
CH-CCR-M50A-1023		6+7		10/17/23		1021		G		11	
CH-CCR-M51A-1023		8+9		10/17/23		937		G		11	
CH-CCR-M65A-1023		10+11		10/16/23		1119		G		11	
CH-CCR-M66A-1023		12+13		10/16/23		1015		G		11	
CH-CCR-M67A-1023		14+15		10/16/23		1515		G		11	
Preservation Used: 1= Ice, 2= HCI, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____		Possible Hazard Identification:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		1		4		4	
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.		<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Return to Client		Barcode: 		5					
Special Instructions/QC Requirements & Comments:		Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked field		550-209471 Chain of Custody							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C):		Ops a:		Lab Inj. No.:			
Relinquished by: <i>[Signature]</i>		Company: <i>[Signature]</i>		Date/Time: 10-20-23 15:01		Received by: <i>[Signature]</i>		Company: <i>[Signature]</i>		Date/Time: 10/20/23 15:01	
Relinquished by: _____		Company: _____		Date/Time: _____		Received by: _____		Company: _____		Date/Time: _____	
Relinquished by: _____		Company: _____		Date/Time: _____		Received in Laboratory by: <i>[Signature]</i>		Company: <i>[Signature]</i>		Date/Time: 10/20/23 15:01	

1.9/2.3/3.1/3.2/4.6/2.1
Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013
15:01
AK

Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Eshelman, Linda Shipping/Receiving: Linda.eshelman@et.eurofins.com Company: TestAmerica Laboratories, Inc. Address: 4955 Yarrow Street, City: Avada State, Zip: CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:		Lab PM: Eshelman, Linda E-Mail: Linda.eshelman@et.eurofins.com Accreditations Required (See note): State - Arizona; State Program - Arizona	Carrier Tracking No(s): 550-38074.1 State of Origin: Arizona Page: Page 1 of 1 Job #: 550-209471-1
Due Date Requested: 11/2/2023 TAT Requested (days):		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
PO #: WO #: Project #: CCR Groundwater Monitoring SOW#:		Analysis Requested Total Number of Containers	
Sample Identification - Client ID (Lab ID)		Field Filtered Sample (Yes or No) 353.2_Pres Perform MS/MSD (Yes or No)	
Sample Date 10/16/23 10/16/23 10/17/23 10/17/23 10/16/23 10/16/23 10/16/23 10/17/23	Sample Time 16:23 Arizona 13:22 Arizona 10:21 Arizona 09:37 Arizona 11:19 Arizona 10:15 Arizona 15:15 Arizona 09:29 Arizona 08:40 Arizona	Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=soil, BT=Tissue, A=Air) Preservation Code: Water Water Water Water Water Water Water Water Water	Special Instructions/Note: 1 1 1 1 1 1 1 1
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.			
Possible Hazard Identification Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months Deliverable Requested: I, II, III, IV, Other (specify)			
Empty Kit Relinquished by: _____ Date: _____ Method of Shipment: _____ Relinquished by: <i>[Signature]</i> Date/Time: 10:30 Company: <i>[Signature]</i> Relinquished by: _____ Date/Time: _____ Company: _____ Relinquished by: _____ Date/Time: _____ Company: _____ Custody Seals Intact: _____ Cooler Temperature(s) °C and Other Remarks: 1.6 meters CFC.3 Custody Seal No.: _____			



Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Chain of Custody Record



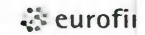
Client Information (Sub Contract Lab)		Sampler:		Lab PM: Eshelman, Linda		Carrier Tracking No(s):		COC No: 550-38073.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: linda.eshelman@et.eurofinsus.com		State of Origin: Arizona		Page: Page 1 of 1			
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Arizona; State Program - Arizona				Job #: 550-209471-			
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 11/2/2023		Analysis Requested						Preservation (
City: Tustin		TAT Requested (days):									
State, Zip: CA, 92780		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		200.7/200.7_P_TR (MOD) Custom 200.7 Metals List		Total Number of containers	
Phone: 714-895-5494(Tel)		WO #:									
Email:		Project #: 55009651		Special		Other:					
Project Name: CCR Groundwater Monitoring		SSOW#:									
Site: Arizona Public Service											
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, AA=)		Preservation Code:	
CH-CCR-W125-1023 (550-209471-16)		10/17/23		11:16 Arizona		Water		X		1	
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under c laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be pr accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testi</p>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For					
Deliverable Requested: I, II, III, IV, Other (specify)				Primary Deliverable Rank: 2		Special Instructions/QC Requirements:					
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:			
Relinquished by: <i>Eric</i>		Date/Time: <i>10-23-23 15:30</i>		Company: <i>EEJSW</i>		Received by: <i>Fedex</i>		Date/Time:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time: <i>10/24/23 0930</i>			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact:		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>S42 1-0</i>							
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											

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Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
 Phoenix, AZ 85040
 Phone: 602-437-3340

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:		Lab PM:		Carrier Tracking No(s):		COC No:																
Client Contact: Shipping/Receiving		Phone:		E-Mail: linda.eshelman@et.eurofinsus.com		State of Origin: Arizona		Page: Page 2 of 2																
Company: Eurofins Environment Testing Southwest,		Address: 2841 Dow Avenue, Suite 100, City: Tustin State, Zip: CA, 92780 Phone: 714-895-5494(Tel) Email:		Due Date Requested: 11/2/2023 TAT Requested (days):		Accreditations Required (See note): State - Arizona; State Program - Arizona		Job #: 550-209471-																
Project Name: CCR Groundwater Monitoring Site: Arizona Public Service		Project #: 55009651 SSOW#:		Analysis Requested		Preservation		Other:																
Sample Identification - Client ID (Lab ID)		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		200.7/200.7_P_TR (MOD) Custom 200.7 Metals List		Total Number of Containers		Special						
CH-CCR-W-126R-1023 (550-209471-17)		10/16/23		09:29 Arizona		Water		Water		X						1								
CH-CCR-BudHunt-1023 (550-209471-19)		10/17/23		08:40 Arizona		Water		Water		X						1								
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under contract to the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.																								
Possible Hazard Identification										Sample Disposal (A fee may be assessed if samples are retained longer than 30 days)														
Unconfirmed										<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For														
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2					Special Instructions/QC Requirements:														
Empty Kit Relinquished by:					Date:					Time:					Method of Shipment:									
Relinquished by: <i>[Signature]</i>					Date/Time: <i>10-23-23 15:30</i>					Company: <i>ETS SW</i>					Received by: <i>Fedex</i>					Date/Time:				
Relinquished by:					Date/Time:					Company:					Received by: <i>[Signature]</i>					Date/Time: <i>10/24/23 09:00</i>				
Relinquished by:					Date/Time:					Company:					Received by:					Date/Time:				
Custody Seals Intact: Δ Yes Δ No					Custody Seal No.:					Cooler Temperature(s) °C and Other Remarks:														



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Environment Testing
TestAmerica
eurofins

2219793



ORIGIN ID: INWA (602) 437-3340
TESTAMERICA-PHOENIX
TESTAMERICA
4625 E COTTON CENTER BLVD
SUITE 189
PHOENIX, AZ 85040
UNITED STATES US

SHIP DATE: 23OCT23
ACTWGT: 52.60 LB
CAD: 0875926/CAFE3
DIMS: 25x13x14 IN
BILL RECIPIENT

DATE 10-23-23
SIGNATURE [Handwritten Signature]

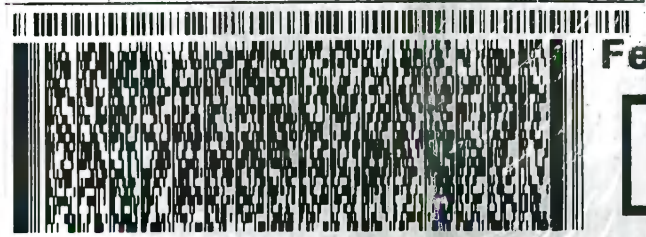
Custody Seal

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUT
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 896-5494
PO: YES

REF: S550-86672
DEPT: SAMPLE RECEIVING



TUE - 24 OCT 1
PRIORITY OVER

TRK# 6388 9413 2200
0201

QZ DTHA

CA-U

eurofins
Environment Testing
TestAmerica
2219793



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Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209471-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209471

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209471-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209471

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 10/24/23 01:25 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2219793
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209471-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209471
List Number: 3
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 10/24/23 05:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (FAP)

JOB NUMBER

550-209610-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-209610-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209610-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/25/2023 1:44 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.1°C, 1.4°C, 1.6°C and 3.2°C

Receipt Exceptions

1 of the 4 voas for DOC has EW02 listed on the sample label as the sample ID.
The sample date and time listed on the label matched the date and time with the EW04 samples.

Labeled the voa and placed it in a separate bag with DNU written on the little bag.
The lab has 3 vials to use for the DOC method.

CH-CCR-EW04-1023 (550-209610-14)

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 200.8_CWA_LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: CH-CCR-GeronimoC-1023 (550-209610-1), CH-CCR-GeronimoC-1023 (550-209610-2), CH-CCR-GeronimoD-1023 (550-209610-3), CH-CCR-GeronimoD-1023 (550-209610-4), CH-CCR-GSX1R-1023 (550-209610-5), CH-CCR-GSX1R-1023 (550-209610-6), CH-CCR-EW01-1023 (550-209610-7), CH-CCR-EW01-1023 (550-209610-8), CH-CCR-EW02-1023 (550-209610-9), CH-CCR-EW02-1023 (550-209610-10), CH-CCR-EW03-1023 (550-209610-11), CH-CCR-EW03-1023 (550-209610-12), CH-CCR-EW04-1023 (550-209610-13), CH-CCR-EW04-1023 (550-209610-14), CH-CCR-HuntB-1023 (550-209610-15), CH-CCR-HuntB-1023 (550-209610-16), (550-209610-I-1-A MS ^10) and (550-209610-I-1-B MSD ^10).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209610-1	CH-CCR-GeronimoC-1023	Water	10/23/23 16:30	10/25/23 13:44
550-209610-2	CH-CCR-GeronimoC-1023	Water	10/23/23 16:30	10/25/23 13:44
550-209610-3	CH-CCR-GeronimoD-1023	Water	10/23/23 16:11	10/25/23 13:44
550-209610-4	CH-CCR-GeronimoD-1023	Water	10/23/23 16:11	10/25/23 13:44
550-209610-5	CH-CCR-GSX1R-1023	Water	10/23/23 17:13	10/25/23 13:44
550-209610-6	CH-CCR-GSX1R-1023	Water	10/23/23 17:13	10/25/23 13:44
550-209610-7	CH-CCR-EW01-1023	Water	10/23/23 15:15	10/25/23 13:44
550-209610-8	CH-CCR-EW01-1023	Water	10/23/23 15:15	10/25/23 13:44
550-209610-9	CH-CCR-EW02-1023	Water	10/23/23 15:45	10/25/23 13:44
550-209610-10	CH-CCR-EW02-1023	Water	10/23/23 15:45	10/25/23 13:44
550-209610-11	CH-CCR-EW03-1023	Water	10/23/23 16:45	10/25/23 13:44
550-209610-12	CH-CCR-EW03-1023	Water	10/23/23 16:45	10/25/23 13:44
550-209610-13	CH-CCR-EW04-1023	Water	10/23/23 17:32	10/25/23 13:44
550-209610-14	CH-CCR-EW04-1023	Water	10/23/23 17:32	10/25/23 13:44
550-209610-15	CH-CCR-HuntB-1023	Water	10/23/23 14:20	10/25/23 13:44
550-209610-16	CH-CCR-HuntB-1023	Water	10/23/23 14:20	10/25/23 13:44



Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7000	D2	200	mg/L	100		300.0	Total/NA
Fluoride	7.0		0.40	mg/L	1		300.0	Total/NA
Sulfate	4500	D2	200	mg/L	100		300.0	Total/NA
Boron	58		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.27		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	520		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.42		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	51		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.57		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.023		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.0061		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.055	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.29		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	72		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	72		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000		200	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.3		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.4		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.3		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.33		0.010	mg/L	1		200.7	Dissolved
Arsenic	16		5.0	ug/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	2.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4800	D2	200	mg/L	100		300.0	Total/NA
Fluoride	3.6		0.40	mg/L	1		300.0	Total/NA
Sulfate	3400	D2	200	mg/L	100		300.0	Total/NA
Boron	66	M3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	610	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	64		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5100	M3	10	mg/L	20		200.7 Rev 4.4	Total/NA
Lithium	0.59		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0088		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.014		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.080	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Nitrate Nitrite as N	0.25		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	95		6.0	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoD-1023 (Continued)

Lab Sample ID: 550-209610-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	95		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.7		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	9.1		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	3.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4200	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.6		0.40	mg/L	1		300.0	Total/NA
Sulfate	3000	D2	200	mg/L	100		300.0	Total/NA
Boron	18		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.92		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2500		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.52		0.10	mg/L	2		200.7 Rev 4.4	Total
								Recoverable
Arsenic	0.0045		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0099		0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0032		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.50	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.14		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	75		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.8		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.93		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.4		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	3.1		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-1023 (Continued)

Lab Sample ID: 550-209610-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Quad	2.0		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6100	D2	200	mg/L	100		300.0	Total/NA
Sulfate	4500	D2	200	mg/L	100		300.0	Total/NA
Boron	16		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.0		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	20		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.55		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0051		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.012		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.22	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.28		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	78		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	78		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	6.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.0		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.0		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	67		0.10	mg/L	1		200.7	Dissolved
Manganese	9.7		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.2		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	3.8		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	2.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6800	D2	200	mg/L	100		300.0	Total/NA
Fluoride	3.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	5400	D2	200	mg/L	100		300.0	Total/NA
Boron	27		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.4		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	360		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	8.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100		5.0	mg/L	10		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW02-1023 (Continued)

Lab Sample ID: 550-209610-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.64		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0049		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.011		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.25	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.17		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	13000		200	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.7		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.7		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.2		0.10	mg/L	1		200.7	Dissolved
Manganese	11		0.10	mg/L	10		200.7	Dissolved
Arsenic	4.5		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	3.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4700	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.7		0.40	mg/L	1		300.0	Total/NA
Sulfate	4800	D2	200	mg/L	100		300.0	Total/NA
Boron	8.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.68		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	320		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.65		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0050		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0096		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.16	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Selenium	0.0080		0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.055		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.8		0.50	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW03-1023 (Continued)

Lab Sample ID: 550-209610-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon - Quad	1.8		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.13		0.10	mg/L	1		200.7	Dissolved
Manganese	2.2		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.2		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5200	D2	200	mg/L	100		300.0	Total/NA
Fluoride	4.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	200	mg/L	100		300.0	Total/NA
Boron	31		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.89		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.44		0.10	mg/L	2		200.7 Rev 4.4	Total
								Recoverable
Arsenic	0.0070		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.011		0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0032		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.39	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	1.1		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	42		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	42		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.8		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.89		0.010	mg/L	1		200.7	Dissolved
Arsenic	7.3		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	3.5		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5400	D2	200	mg/L	100		300.0	Total/NA
Fluoride	4.2		0.40	mg/L	1		300.0	Total/NA
Sulfate	3400	D2	200	mg/L	100		300.0	Total/NA
Boron	34		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	31		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.42		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0045		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.011		0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0052		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.35	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.46		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.19		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	51		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	51		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000		200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.6		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.6		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.6		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.4		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	5.2		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	1.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.8		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-1

Date Collected: 10/23/23 16:30

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7000	D2	200	mg/L			10/30/23 22:12	100
Fluoride	7.0		0.40	mg/L			10/30/23 17:12	1
Sulfate	4500	D2	200	mg/L			10/30/23 22:12	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/30/23 23:49	1
Boron	58		0.050	mg/L		10/26/23 06:11	10/30/23 23:49	1
Calcium	780		2.0	mg/L		10/26/23 06:11	10/30/23 23:49	1
Iron	0.27		0.10	mg/L		10/26/23 06:11	10/30/23 23:49	1
Magnesium	520		2.0	mg/L		10/26/23 06:11	10/30/23 23:49	1
Manganese	0.42		0.010	mg/L		10/26/23 06:11	10/30/23 23:49	1
Potassium	51		0.50	mg/L		10/26/23 06:11	10/30/23 23:49	1
Sodium	4600		5.0	mg/L		10/26/23 06:11	11/06/23 14:05	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.57		0.10	mg/L		10/30/23 09:23	10/31/23 18:33	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/26/23 05:43	11/03/23 16:57	10
Arsenic	0.023		0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Barium	0.0061		0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Cadmium	ND		0.0010	mg/L		10/26/23 05:43	11/03/23 16:57	10
Chromium	ND		0.010	mg/L		10/26/23 05:43	11/03/23 16:57	10
Cobalt	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Lead	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Molybdenum	0.055	T5	0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Selenium	ND	M2	0.0050	mg/L		10/26/23 05:43	11/03/23 16:57	10
Thallium	ND		0.0010	mg/L		10/26/23 05:43	11/03/23 16:57	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 12:59	1
Nitrate Nitrite as N (EPA 353.2)	0.29		0.10	mg/L			10/31/23 16:01	1
Alkalinity as CaCO3 (SM 2320B)	72		6.0	mg/L			11/01/23 13:42	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:42	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	72		6.0	mg/L			11/01/23 13:42	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:42	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:42	1
Total Dissolved Solids (SM 2540C)	16000		200	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.1	H5	1.7	SU			11/01/23 13:49	1
Temperature (SM 4500 H+ B)	11.2	H5 T5	0.1	Degrees C			11/01/23 13:49	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-1

Date Collected: 10/23/23 16:30

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310B)	2.3		0.50	mg/L			11/13/23 21:53	1
Total Organic Carbon - Duplicates (SM 5310B)	2.4		0.50	mg/L			11/13/23 21:53	1
Total Organic Carbon - Quad (SM 5310B)	2.3		0.50	mg/L			11/13/23 21:53	1

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-2

Date Collected: 10/23/23 16:30

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 06:11	10/30/23 23:52	1
Manganese	0.33		0.010	mg/L		10/26/23 06:11	10/30/23 23:52	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	16		5.0	ug/L		10/26/23 05:43	11/03/23 16:59	10
Cobalt	ND		5.0	ug/L		10/26/23 05:43	11/03/23 16:59	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.2		0.50	mg/L			11/08/23 07:03	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.2		0.50	mg/L			11/08/23 07:03	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.2		0.50	mg/L			11/08/23 07:03	1

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-3

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4800	D2	200	mg/L			10/30/23 22:40	100
Fluoride	3.6		0.40	mg/L			10/31/23 08:50	1
Sulfate	3400	D2	200	mg/L			10/30/23 22:40	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/30/23 23:44	1
Boron	66	M3	0.050	mg/L		10/26/23 06:11	10/30/23 23:44	1
Calcium	820	M3	2.0	mg/L		10/26/23 06:11	10/30/23 23:44	1
Iron	ND		0.10	mg/L		10/26/23 06:11	10/30/23 23:44	1
Magnesium	610	M3	2.0	mg/L		10/26/23 06:11	10/30/23 23:44	1
Manganese	ND		0.010	mg/L		10/26/23 06:11	10/30/23 23:44	1
Potassium	64		0.50	mg/L		10/26/23 06:11	10/30/23 23:44	1
Sodium	5100	M3	10	mg/L		10/26/23 06:11	11/06/23 14:02	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.59		0.10	mg/L		10/30/23 09:23	10/31/23 18:36	2

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-3

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:31	5
Arsenic	0.0088		0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Barium	0.014		0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:31	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:31	5
Cobalt	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Molybdenum	0.080	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:31	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:31	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:04	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 13:01	1
Nitrate Nitrite as N (EPA 353.2)	0.25		0.10	mg/L			10/31/23 16:03	1
Alkalinity as CaCO3 (SM 2320B)	95		6.0	mg/L			11/01/23 13:54	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	95		6.0	mg/L			11/01/23 13:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:54	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:54	1
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			11/01/23 13:52	1
Temperature (SM 4500 H+ B)	10.1	H5 T5	0.1	Degrees C			11/01/23 13:52	1
Total Organic Carbon (SM 5310B)	2.7		0.50	mg/L			11/13/23 22:16	1
Total Organic Carbon - Duplicates (SM 5310B)	2.7		0.50	mg/L			11/13/23 22:16	1
Total Organic Carbon - Quad (SM 5310B)	2.7		0.50	mg/L			11/13/23 22:16	1

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-4

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 06:11	10/30/23 23:46	1
Manganese	ND		0.010	mg/L		10/26/23 06:11	10/30/23 23:46	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.1		2.5	ug/L		10/26/23 05:43	11/03/23 16:33	5
Cobalt	ND		2.5	ug/L		10/26/23 05:43	11/03/23 16:33	5

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-4

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.2		0.50	mg/L			11/13/23 14:40	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.2		0.50	mg/L			11/13/23 14:40	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.2		0.50	mg/L			11/13/23 14:40	1

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-5

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4200	D2	200	mg/L			10/30/23 23:08	100
Fluoride	2.6		0.40	mg/L			10/31/23 09:08	1
Sulfate	3000	D2	200	mg/L			10/30/23 23:08	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/30/23 23:55	1
Boron	18		0.050	mg/L		10/26/23 06:11	10/30/23 23:55	1
Calcium	740		2.0	mg/L		10/26/23 06:11	10/30/23 23:55	1
Iron	0.10		0.10	mg/L		10/26/23 06:11	10/30/23 23:55	1
Magnesium	250		2.0	mg/L		10/26/23 06:11	10/30/23 23:55	1
Manganese	0.92		0.010	mg/L		10/26/23 06:11	10/30/23 23:55	1
Potassium	26		0.50	mg/L		10/26/23 06:11	10/30/23 23:55	1
Sodium	2500		5.0	mg/L		10/26/23 06:11	11/06/23 14:08	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.52		0.10	mg/L		10/30/23 06:51	10/31/23 11:47	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:35	5
Arsenic	0.0045		0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Barium	0.0099		0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:35	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:35	5
Cobalt	0.0032		0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Molybdenum	0.50	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:35	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:35	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:06	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.14		0.050	mg/L			11/01/23 13:02	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-5

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:05	1
Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			11/01/23 14:00	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			11/01/23 14:00	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:00	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:00	1
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			11/01/23 13:53	1
Temperature (SM 4500 H+ B)	10.0	H5 T5	0.1	Degrees C			11/01/23 13:53	1
Total Organic Carbon (SM 5310B)	1.8		0.50	mg/L			11/13/23 22:33	1
Total Organic Carbon - Duplicates (SM 5310B)	1.8		0.50	mg/L			11/13/23 22:33	1
Total Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			11/13/23 22:33	1

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-6

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 06:11	10/30/23 23:58	1
Manganese	0.93		0.010	mg/L		10/26/23 06:11	10/30/23 23:58	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		2.5	ug/L		10/26/23 05:43	11/03/23 16:37	5
Cobalt	3.1		2.5	ug/L		10/26/23 05:43	11/03/23 16:37	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.0		0.50	mg/L			11/13/23 13:34	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.0		0.50	mg/L			11/13/23 13:34	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.0		0.50	mg/L			11/13/23 13:34	1

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-7

Date Collected: 10/23/23 15:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6100	D2	200	mg/L			10/30/23 23:36	100
Fluoride	ND		0.40	mg/L			10/31/23 10:22	1
Sulfate	4500	D2	200	mg/L			10/30/23 23:36	100

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-7

Date Collected: 10/23/23 15:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/31/23 00:00	1
Boron	16		0.050	mg/L		10/26/23 06:11	10/31/23 00:00	1
Calcium	810		2.0	mg/L		10/26/23 06:11	10/31/23 00:00	1
Iron	14		0.10	mg/L		10/26/23 06:11	10/31/23 00:00	1
Magnesium	300		2.0	mg/L		10/26/23 06:11	10/31/23 00:00	1
Manganese	3.0		0.010	mg/L		10/26/23 06:11	10/31/23 00:00	1
Potassium	20		0.50	mg/L		10/26/23 06:11	10/31/23 00:00	1
Sodium	3000		5.0	mg/L		10/26/23 06:11	11/06/23 14:11	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.55		0.10	mg/L		10/30/23 06:51	10/31/23 11:49	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:39	5
Arsenic	0.0051		0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Barium	0.012		0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:39	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:39	5
Cobalt	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Molybdenum	0.22	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:39	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:39	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.28		0.050	mg/L			11/01/23 13:04	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:19	1
Alkalinity as CaCO3 (SM 2320B)	78		6.0	mg/L			11/01/23 14:06	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	78		6.0	mg/L			11/01/23 14:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:06	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:06	1
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	6.7	H5	1.7	SU			11/01/23 13:54	1
Temperature (SM 4500 H+ B)	9.6	H5 T5	0.1	Degrees C			11/01/23 13:54	1
Total Organic Carbon (SM 5310B)	2.0		0.50	mg/L			11/13/23 22:54	1
Total Organic Carbon - Duplicates (SM 5310B)	2.0		0.50	mg/L			11/13/23 22:54	1
Total Organic Carbon - Quad (SM 5310B)	2.0		0.50	mg/L			11/13/23 22:54	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-8

Date Collected: 10/23/23 15:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	67		0.10	mg/L		10/26/23 06:11	10/31/23 00:03	1
Manganese	9.7		0.010	mg/L		10/26/23 06:11	10/31/23 00:03	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		2.5	ug/L		10/26/23 05:43	11/03/23 16:41	5
Cobalt	3.8		2.5	ug/L		10/26/23 05:43	11/03/23 16:41	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.4		0.50	mg/L			11/13/23 14:57	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.4		0.50	mg/L			11/13/23 14:57	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.4		0.50	mg/L			11/13/23 14:57	1

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-9

Date Collected: 10/23/23 15:45

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6800	D2	200	mg/L			10/31/23 00:04	100
Fluoride	3.3		0.40	mg/L			10/31/23 10:40	1
Sulfate	5400	D2	200	mg/L			10/31/23 00:04	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/31/23 00:12	1
Boron	27		0.050	mg/L		10/26/23 06:11	10/31/23 00:12	1
Calcium	750		2.0	mg/L		10/26/23 06:11	10/31/23 00:12	1
Iron	2.4		0.10	mg/L		10/26/23 06:11	10/31/23 00:12	1
Magnesium	360		2.0	mg/L		10/26/23 06:11	10/31/23 00:12	1
Manganese	8.5		0.010	mg/L		10/26/23 06:11	10/31/23 00:12	1
Potassium	22		0.50	mg/L		10/26/23 06:11	10/31/23 00:12	1
Sodium	3100		5.0	mg/L		10/26/23 06:11	11/06/23 14:13	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.64		0.10	mg/L		10/30/23 06:51	10/31/23 11:52	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:43	5
Arsenic	0.0049		0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5
Barium	0.011		0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:43	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 16:43	5
Cobalt	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5
Molybdenum	0.25	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-9

Date Collected: 10/23/23 15:45

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 16:43	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:43	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:35	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.17		0.050	mg/L			11/01/23 13:05	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:21	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			11/01/23 14:13	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:13	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			11/01/23 14:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:13	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:13	1
Total Dissolved Solids (SM 2540C)	13000		200	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			11/01/23 13:55	1
Temperature (SM 4500 H+ B)	10.8	H5 T5	0.1	Degrees C			11/01/23 13:55	1
Total Organic Carbon (SM 5310B)	2.7		0.50	mg/L			11/13/23 23:16	1
Total Organic Carbon - Duplicates (SM 5310B)	2.7		0.50	mg/L			11/13/23 23:16	1
Total Organic Carbon - Quad (SM 5310B)	2.7		0.50	mg/L			11/13/23 23:16	1

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-10

Date Collected: 10/23/23 15:45

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.2		0.10	mg/L		10/26/23 06:11	10/31/23 00:15	1
Manganese	11		0.10	mg/L		10/26/23 06:11	11/06/23 14:16	10

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5		2.5	ug/L		10/26/23 05:43	11/03/23 16:45	5
Cobalt	ND		2.5	ug/L		10/26/23 05:43	11/03/23 16:45	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.1		0.50	mg/L			11/13/23 15:20	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.1		0.50	mg/L			11/13/23 15:20	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.1		0.50	mg/L			11/13/23 15:20	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-11

Date Collected: 10/23/23 16:45

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4700	D2	200	mg/L			10/31/23 00:32	100
Fluoride	1.7		0.40	mg/L			10/31/23 10:58	1
Sulfate	4800	D2	200	mg/L			10/31/23 00:32	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/31/23 00:17	1
Boron	8.7		0.050	mg/L		10/26/23 06:11	10/31/23 00:17	1
Calcium	710		2.0	mg/L		10/26/23 06:11	10/31/23 00:17	1
Iron	0.68		0.10	mg/L		10/26/23 06:11	10/31/23 00:17	1
Magnesium	320		2.0	mg/L		10/26/23 06:11	10/31/23 00:17	1
Manganese	2.2		0.010	mg/L		10/26/23 06:11	10/31/23 00:17	1
Potassium	15		0.50	mg/L		10/26/23 06:11	10/31/23 00:17	1
Sodium	2300		5.0	mg/L		10/26/23 06:11	11/06/23 14:19	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.65		0.050	mg/L		10/30/23 06:51	10/31/23 11:39	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:01	5
Arsenic	0.0050		0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Barium	0.0096		0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:01	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:01	5
Cobalt	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Molybdenum	0.16	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Selenium	0.0080		0.0025	mg/L		10/26/23 05:43	11/03/23 17:01	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:01	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.055		0.050	mg/L			11/01/23 13:07	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:23	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			11/01/23 14:19	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:19	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			11/01/23 14:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:19	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:19	1
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			11/01/23 13:57	1
Temperature (SM 4500 H+ B)	11.8	H5 T5	0.1	Degrees C			11/01/23 13:57	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-11

Date Collected: 10/23/23 16:45

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310B)	1.8		0.50	mg/L			11/13/23 23:33	1
Total Organic Carbon - Duplicates (SM 5310B)	1.8		0.50	mg/L			11/13/23 23:33	1
Total Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			11/13/23 23:33	1

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-12

Date Collected: 10/23/23 16:45

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.13		0.10	mg/L		10/26/23 06:11	10/31/23 00:20	1
Manganese	2.2		0.010	mg/L		10/26/23 06:11	10/31/23 00:20	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.2		2.5	ug/L		10/26/23 05:43	11/03/23 17:03	5
Cobalt	ND		2.5	ug/L		10/26/23 05:43	11/03/23 17:03	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.1		0.50	mg/L			11/13/23 15:42	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.1		0.50	mg/L			11/13/23 15:42	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.1		0.50	mg/L			11/13/23 15:42	1

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-13

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5200	D2	200	mg/L			10/31/23 00:59	100
Fluoride	4.3		0.40	mg/L			10/31/23 11:17	1
Sulfate	2800	D2	200	mg/L			10/31/23 00:59	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/31/23 00:23	1
Boron	31		0.050	mg/L		10/26/23 06:11	10/31/23 00:23	1
Calcium	840		2.0	mg/L		10/26/23 06:11	10/31/23 00:23	1
Iron	ND		0.10	mg/L		10/26/23 06:11	10/31/23 00:23	1
Magnesium	190		2.0	mg/L		10/26/23 06:11	10/31/23 00:23	1
Manganese	0.89		0.010	mg/L		10/26/23 06:11	10/31/23 00:23	1
Potassium	26		0.50	mg/L		10/26/23 06:11	10/31/23 00:23	1
Sodium	3100		5.0	mg/L		10/26/23 06:11	11/06/23 14:22	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.44		0.10	mg/L		10/30/23 06:51	10/31/23 11:57	2

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-13

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:05	5
Arsenic	0.0070		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Barium	0.011		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:05	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:05	5
Cobalt	0.0032		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Molybdenum	0.39 T5		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:05	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:05	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:39	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	1.1		0.050	mg/L			11/01/23 13:08	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:29	1
Alkalinity as CaCO3 (SM 2320B)	42		6.0	mg/L			11/01/23 14:26	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	42		6.0	mg/L			11/01/23 14:26	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:26	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:26	1
Total Dissolved Solids (SM 2540C)	12000		200	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.8 H5		1.7	SU			11/01/23 13:58	1
Temperature (SM 4500 H+ B)	12.0 H5 T5		0.1	Degrees C			11/01/23 13:58	1
Total Organic Carbon (SM 5310B)	1.8		0.50	mg/L			11/15/23 18:53	1
Total Organic Carbon - Duplicates (SM 5310B)	1.8		0.50	mg/L			11/15/23 18:53	1
Total Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			11/15/23 18:53	1

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-14

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 06:11	10/31/23 00:26	1
Manganese	0.89		0.010	mg/L		10/26/23 06:11	10/31/23 00:26	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.3		2.5	ug/L		10/26/23 05:43	11/03/23 17:07	5
Cobalt	3.5		2.5	ug/L		10/26/23 05:43	11/03/23 17:07	5

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-14

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.7		0.50	mg/L			11/13/23 16:04	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.7		0.50	mg/L			11/13/23 16:04	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.7		0.50	mg/L			11/13/23 16:04	1

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-15

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5400	D2	200	mg/L			10/31/23 12:06	100
Fluoride	4.2		0.40	mg/L			10/31/23 11:35	1
Sulfate	3400	D2	200	mg/L			10/31/23 12:06	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/31/23 00:29	1
Boron	34		0.050	mg/L		10/26/23 06:11	10/31/23 00:29	1
Calcium	810		2.0	mg/L		10/26/23 06:11	10/31/23 00:29	1
Iron	ND		0.10	mg/L		10/26/23 06:11	10/31/23 00:29	1
Magnesium	250		2.0	mg/L		10/26/23 06:11	10/31/23 00:29	1
Manganese	1.1		0.010	mg/L		10/26/23 06:11	10/31/23 00:29	1
Potassium	31		0.50	mg/L		10/26/23 06:11	10/31/23 00:29	1
Sodium	3100		5.0	mg/L		10/26/23 06:11	11/06/23 14:25	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.42		0.10	mg/L		10/30/23 09:23	10/31/23 18:38	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:09	5
Arsenic	0.0045		0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Barium	0.011		0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:09	5
Chromium	ND		0.0050	mg/L		10/26/23 05:43	11/03/23 17:09	5
Cobalt	0.0052		0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Lead	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Molybdenum	0.35	T5	0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Selenium	ND		0.0025	mg/L		10/26/23 05:43	11/03/23 17:09	5
Thallium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 17:09	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 16:41	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.46		0.050	mg/L			11/01/23 13:10	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-15

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.19		0.10	mg/L			10/31/23 16:31	1
Alkalinity as CaCO3 (SM 2320B)	51		6.0	mg/L			11/01/23 14:31	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 14:31	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	51		6.0	mg/L			11/01/23 14:31	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:31	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 14:31	1
Total Dissolved Solids (SM 2540C)	12000		200	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			11/01/23 13:59	1
Temperature (SM 4500 H+ B)	11.8	H5 T5	0.1	Degrees C			11/01/23 13:59	1
Total Organic Carbon (SM 5310B)	1.6		0.50	mg/L			11/14/23 00:54	1
Total Organic Carbon - Duplicates (SM 5310B)	1.6		0.50	mg/L			11/14/23 00:54	1
Total Organic Carbon - Quad (SM 5310B)	1.6		0.50	mg/L			11/14/23 00:54	1

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-16

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 06:11	10/31/23 00:32	1
Manganese	1.1		0.010	mg/L		10/26/23 06:11	10/31/23 00:32	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4		2.5	ug/L		10/26/23 05:43	11/03/23 17:11	5
Cobalt	5.2		2.5	ug/L		10/26/23 05:43	11/03/23 17:11	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.8		0.50	mg/L			11/13/23 16:26	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.8		0.50	mg/L			11/13/23 16:26	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			11/13/23 16:26	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-310212/2
Matrix: Water
Analysis Batch: 310212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/30/23 10:05	1
Fluoride	ND		0.40	mg/L			10/30/23 10:05	1
Sulfate	ND		2.0	mg/L			10/30/23 10:05	1

Lab Sample ID: LCS 550-310212/5
Matrix: Water
Analysis Batch: 310212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	19.3		mg/L		96	90 - 110
Fluoride	4.00	3.59		mg/L		90	90 - 110
Sulfate	20.0	19.3		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-310212/6
Matrix: Water
Analysis Batch: 310212

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	19.2		mg/L		96	90 - 110	1	20
Fluoride	4.00	3.60		mg/L		90	90 - 110	0	20
Sulfate	20.0	19.1		mg/L		96	90 - 110	1	20

Lab Sample ID: 550-209568-B-6 MS ^20
Matrix: Water
Analysis Batch: 310212

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	ND		400	460		mg/L		112	80 - 120
Fluoride	ND		80.0	85.2		mg/L		106	80 - 120
Sulfate	1500	M2	400	1850		mg/L		92	80 - 120

Lab Sample ID: 550-209568-B-6 MSD ^20
Matrix: Water
Analysis Batch: 310212

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	ND		400	394		mg/L		95	80 - 120	15	20
Fluoride	ND		80.0	74.3		mg/L		93	80 - 120	14	20
Sulfate	1500	M2	400	1780	M2	mg/L		77	80 - 120	3	20

Lab Sample ID: MB 550-310213/2
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/30/23 10:46	1
Fluoride	ND		0.40	mg/L			10/30/23 10:46	1
Sulfate	ND		2.0	mg/L			10/30/23 10:46	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-310213/5
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Chloride	20.0	20.4		mg/L		102	90 - 110	
Fluoride	4.00	4.23		mg/L		106	90 - 110	
Sulfate	20.0	20.5		mg/L		103	90 - 110	

Lab Sample ID: LCSD 550-310213/6
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20	
Fluoride	4.00	4.23		mg/L		106	90 - 110	0	20	
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20	

Lab Sample ID: 550-209476-A-15 MS
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
Chloride	790	E2 M3	20.0	786	E2 M3	mg/L		-11	80 - 120	
Fluoride	0.50		4.00	4.12		mg/L		90	80 - 120	
Sulfate	1300	E2 M3	20.0	1290	E2 M3	mg/L		-125	80 - 120	

Lab Sample ID: 550-209476-A-15 MSD
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	Limit
Chloride	790	E2 M3	20.0	786	E2 M3	mg/L		-11	80 - 120	0	20	
Fluoride	0.50		4.00	4.23		mg/L		93	80 - 120	3	20	
Sulfate	1300	E2 M3	20.0	1290	E2 M3	mg/L		-130	80 - 120	0	20	

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309970/1-A
Matrix: Water
Analysis Batch: 310234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309970

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Beryllium	ND		0.0010	mg/L		10/26/23 06:11	10/30/23 23:29	1
Boron	ND		0.050	mg/L		10/26/23 06:11	10/30/23 23:29	1
Calcium	ND		2.0	mg/L		10/26/23 06:11	10/30/23 23:29	1
Iron	ND		0.10	mg/L		10/26/23 06:11	10/30/23 23:29	1
Magnesium	ND		2.0	mg/L		10/26/23 06:11	10/30/23 23:29	1
Manganese	ND		0.010	mg/L		10/26/23 06:11	10/30/23 23:29	1
Potassium	ND		0.50	mg/L		10/26/23 06:11	10/30/23 23:29	1
Sodium	ND	V1	0.50	mg/L		10/26/23 06:11	10/30/23 23:29	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-309970/2-A
Matrix: Water
Analysis Batch: 310234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Beryllium	1.00	1.00		mg/L		100	85 - 115	
Boron	1.00	1.02		mg/L		102	85 - 115	
Calcium	21.0	22.1		mg/L		105	85 - 115	
Iron	1.00	0.973		mg/L		97	85 - 115	
Magnesium	21.0	21.1		mg/L		101	85 - 115	
Manganese	1.00	0.983		mg/L		98	85 - 115	
Potassium	20.0	20.1		mg/L		100	85 - 115	
Sodium	20.0	20.2	V1	mg/L		101	85 - 115	

Lab Sample ID: LCSD 550-309970/3-A
Matrix: Water
Analysis Batch: 310234

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Beryllium	1.00	0.991		mg/L		99	85 - 115	1	20	
Boron	1.00	1.01		mg/L		101	85 - 115	1	20	
Calcium	21.0	21.8		mg/L		104	85 - 115	1	20	
Iron	1.00	0.961		mg/L		96	85 - 115	1	20	
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20	
Manganese	1.00	0.975		mg/L		97	85 - 115	1	20	
Potassium	20.0	19.8		mg/L		99	85 - 115	2	20	
Sodium	20.0	20.0	V1	mg/L		100	85 - 115	1	20	

Lab Sample ID: 550-209610-3 MS
Matrix: Water
Analysis Batch: 310234

Client Sample ID: CH-CCR-GeronimoD-1023
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Beryllium	ND		1.00	1.07		mg/L		107	70 - 130	
Boron	66	M3	1.00	62.7	M3	mg/L		-302	70 - 130	
Calcium	820	M3	21.0	786	M3	mg/L		-171	70 - 130	
Iron	ND		1.00	1.15		mg/L		107	70 - 130	
Magnesium	610	M3	21.0	586	M3	mg/L		-107	70 - 130	
Manganese	ND		1.00	0.952		mg/L		95	70 - 130	
Potassium	64		20.0	79.7		mg/L		77	70 - 130	

Lab Sample ID: 550-209610-3 MS
Matrix: Water
Analysis Batch: 310604

Client Sample ID: CH-CCR-GeronimoD-1023
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Sodium	5100	M3	20.0	4870	M3	mg/L		-1006	70 - 130	

Lab Sample ID: 550-209610-3 MSD
Matrix: Water
Analysis Batch: 310234

Client Sample ID: CH-CCR-GeronimoD-1023
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	
									Limits		RPD	Limit
Beryllium	ND		1.00	1.11		mg/L		111	70 - 130	4	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209610-3 MSD
Matrix: Water
Analysis Batch: 310234

Client Sample ID: CH-CCR-GeronimoD-1023
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Boron	66	M3	1.00	63.1	M3	mg/L		-270	70 - 130	1	20	
Calcium	820	M3	21.0	807	M3	mg/L		-72	70 - 130	3	20	
Iron	ND		1.00	1.18		mg/L		111	70 - 130	3	20	
Magnesium	610	M3	21.0	602	M3	mg/L		-32	70 - 130	3	20	
Manganese	ND		1.00	0.964		mg/L		96	70 - 130	1	20	
Potassium	64		20.0	82.4		mg/L		91	70 - 130	3	20	

Lab Sample ID: 550-209610-3 MSD
Matrix: Water
Analysis Batch: 310604

Client Sample ID: CH-CCR-GeronimoD-1023
Prep Type: Total/NA
Prep Batch: 309970

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
Sodium	5100	M3	20.0	4970	M3	mg/L		-469	70 - 130	2	20	

Lab Sample ID: MB 570-378317/1-A
Matrix: Water
Analysis Batch: 378999

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 378317

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.050	mg/L		10/30/23 06:51	10/31/23 11:09	1

Lab Sample ID: LCS 570-378317/2-A
Matrix: Water
Analysis Batch: 378999

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 378317

Analyte	Spike	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Lithium	0.500	0.504		mg/L		101	85 - 115	

Lab Sample ID: LCSD 570-378317/3-A
Matrix: Water
Analysis Batch: 378999

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 378317

Analyte	Spike	LCSD		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Lithium	0.500	0.499		mg/L		100	85 - 115	1

Lab Sample ID: MB 570-378376/1-A
Matrix: Water
Analysis Batch: 379069

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 378376

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.050	mg/L		10/30/23 09:23	10/31/23 18:10	1

Lab Sample ID: LCS 570-378376/2-A
Matrix: Water
Analysis Batch: 379069

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 378376

Analyte	Spike	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Lithium	0.500	0.492		mg/L		98	85 - 115	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 570-378376/3-A
Matrix: Water
Analysis Batch: 379069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 378376

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Lithium	0.500	0.486		mg/L		97	85 - 115	1	20	

Lab Sample ID: 570-158471-C-10-B MS
Matrix: Water
Analysis Batch: 379069

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 378376

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Lithium	ND		0.500	0.514		mg/L		103	80 - 120			

Lab Sample ID: 570-158471-C-10-C MSD
Matrix: Water
Analysis Batch: 379069

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 378376

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Lithium	ND		0.500	0.508		mg/L		102	80 - 120	1	20	

Lab Sample ID: 570-158408-C-1-B MS
Matrix: Water
Analysis Batch: 378999

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 378317

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Lithium	0.12		0.500	0.652		mg/L		107	80 - 120			

Lab Sample ID: 570-158408-C-1-C MSD
Matrix: Water
Analysis Batch: 378999

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 378317

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Lithium	0.12		0.500	0.649		mg/L		106	80 - 120	1	20	

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309968/1-A
Matrix: Water
Analysis Batch: 310542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309968

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/26/23 05:43	11/03/23 16:12	1
Arsenic	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Barium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:43	11/03/23 16:12	1
Chromium	ND		0.0010	mg/L		10/26/23 05:43	11/03/23 16:12	1
Cobalt	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Lead	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Molybdenum	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Selenium	ND		0.00050	mg/L		10/26/23 05:43	11/03/23 16:12	1
Thallium	ND		0.00010	mg/L		10/26/23 05:43	11/03/23 16:12	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309968/2-A
Matrix: Water
Analysis Batch: 310542

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309968

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Antimony	0.100	0.0945		mg/L		95	85 - 115	
Arsenic	0.100	0.0949		mg/L		95	85 - 115	
Barium	0.100	0.104		mg/L		104	85 - 115	
Cadmium	0.100	0.0967		mg/L		97	85 - 115	
Chromium	0.100	0.0971		mg/L		97	85 - 115	
Cobalt	0.100	0.100		mg/L		100	85 - 115	
Lead	0.100	0.103		mg/L		103	85 - 115	
Molybdenum	0.100	0.0976		mg/L		98	85 - 115	
Selenium	0.100	0.0937		mg/L		94	85 - 115	
Thallium	0.100	0.0982		mg/L		98	85 - 115	

Lab Sample ID: LCSD 550-309968/3-A
Matrix: Water
Analysis Batch: 310542

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309968

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Antimony	0.100	0.0953		mg/L		95	85 - 115	1	20	
Arsenic	0.100	0.0941		mg/L		94	85 - 115	1	20	
Barium	0.100	0.104		mg/L		104	85 - 115	0	20	
Cadmium	0.100	0.0986		mg/L		99	85 - 115	2	20	
Chromium	0.100	0.0965		mg/L		97	85 - 115	1	20	
Cobalt	0.100	0.102		mg/L		102	85 - 115	1	20	
Lead	0.100	0.0998		mg/L		100	85 - 115	3	20	
Molybdenum	0.100	0.0998		mg/L		100	85 - 115	2	20	
Selenium	0.100	0.0936		mg/L		94	85 - 115	0	20	
Thallium	0.100	0.0965		mg/L		96	85 - 115	2	20	

Lab Sample ID: 550-209610-1 MS
Matrix: Water
Analysis Batch: 310542

Client Sample ID: CH-CCR-GeronimoC-1023
Prep Type: Total/NA
Prep Batch: 309968

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Antimony	ND		0.100	0.0990		mg/L		99	70 - 130	
Arsenic	0.023		0.100	0.109		mg/L		85	70 - 130	
Barium	0.0061		0.100	0.112		mg/L		106	70 - 130	
Cadmium	ND		0.100	0.0946		mg/L		95	70 - 130	
Chromium	ND		0.100	0.0893		mg/L		82	70 - 130	
Cobalt	ND		0.100	0.0857		mg/L		84	70 - 130	
Lead	ND		0.100	0.0959		mg/L		96	70 - 130	
Molybdenum	0.055	T5	0.100	0.157		mg/L		103	70 - 130	
Selenium	ND	M2	0.100	0.0670	M2	mg/L		67	70 - 130	
Thallium	ND		0.100	0.0917		mg/L		92	70 - 130	

Lab Sample ID: 550-209610-1 MSD
Matrix: Water
Analysis Batch: 310542

Client Sample ID: CH-CCR-GeronimoC-1023
Prep Type: Total/NA
Prep Batch: 309968

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	
									Limits		RPD	Limit
Antimony	ND		0.100	0.0981		mg/L		98	70 - 130	1	20	

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209610-1 MSD
Matrix: Water
Analysis Batch: 310542

Client Sample ID: CH-CCR-GeronimoC-1023
Prep Type: Total/NA
Prep Batch: 309968

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Arsenic	0.023		0.100	0.105		mg/L		82	70 - 130	3	20
Barium	0.0061		0.100	0.112		mg/L		106	70 - 130	0	20
Cadmium	ND		0.100	0.0948		mg/L		95	70 - 130	0	20
Chromium	ND		0.100	0.0884		mg/L		81	70 - 130	1	20
Cobalt	ND		0.100	0.0855		mg/L		83	70 - 130	0	20
Lead	ND		0.100	0.0942		mg/L		94	70 - 130	2	20
Molybdenum	0.055	T5	0.100	0.155		mg/L		100	70 - 130	2	20
Selenium	ND	M2	0.100	0.0653	M2	mg/L		65	70 - 130	3	20
Thallium	ND		0.100	0.0905		mg/L		90	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-310189/1-A
Matrix: Water
Analysis Batch: 310214

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 310189

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		10/30/23 12:54	10/30/23 15:47	1

Lab Sample ID: LCS 550-310189/2-A
Matrix: Water
Analysis Batch: 310214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 310189

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Mercury	0.00500	0.00470		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-310189/3-A
Matrix: Water
Analysis Batch: 310214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 310189

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Mercury	0.00500	0.00493		mg/L		99	85 - 115	5	20

Lab Sample ID: 550-209642-D-1-D MS
Matrix: Water
Analysis Batch: 310214

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 310189

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Mercury	ND		0.00500	0.00539		mg/L		108	70 - 130

Lab Sample ID: 550-209642-D-1-E MSD
Matrix: Water
Analysis Batch: 310214

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 310189

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Mercury	ND		0.00500	0.00540		mg/L		108	70 - 130	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310375/21
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			11/01/23 12:23	1

Lab Sample ID: LCS 550-310375/22
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.969		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-310375/23
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.986		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-209812-F-1 MS
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.6		1.00	2.65		mg/L		108	90 - 110

Lab Sample ID: 550-209812-F-1 MSD
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.6		1.00	2.61		mg/L		104	90 - 110	2	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-631959/104
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/31/23 15:45	1

Lab Sample ID: MB 280-631959/60
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/31/23 14:17	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 280-631959/103
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.73		mg/L		95	90 - 110

Lab Sample ID: 550-209610-11 MS
Matrix: Water
Analysis Batch: 631959

Client Sample ID: CH-CCR-EW03-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	3.80		mg/L		93	90 - 110

Lab Sample ID: 550-209610-11 MSD
Matrix: Water
Analysis Batch: 631959

Client Sample ID: CH-CCR-EW03-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.87		mg/L		94	90 - 110	2	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-310379/3
Matrix: Water
Analysis Batch: 310379

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			11/01/23 11:51	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1

Lab Sample ID: LCS 550-310379/4
Matrix: Water
Analysis Batch: 310379

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-310379/17
Matrix: Water
Analysis Batch: 310379

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110	3	20

Lab Sample ID: 550-209610-1 DU
Matrix: Water
Analysis Batch: 310379

Client Sample ID: CH-CCR-GeronimoC-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	72		71.9		mg/L		0.3	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-209610-1 DU
 Matrix: Water
 Analysis Batch: 310379

Client Sample ID: CH-CCR-GeronimoC-1023
 Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Bicarbonate Alkalinity as CaCO3	72		71.9		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-310111/1
 Matrix: Water
 Analysis Batch: 310111

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			10/27/23 12:51	1

Lab Sample ID: LCS 550-310111/2
 Matrix: Water
 Analysis Batch: 310111

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310111/3
 Matrix: Water
 Analysis Batch: 310111

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Total Dissolved Solids	1000	966		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-209609-B-1 DU
 Matrix: Water
 Analysis Batch: 310111

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	7900		7720		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-310369/1
 Matrix: Water
 Analysis Batch: 310369

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
pH	7.00	7.0		SU		99.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310369/12
 Matrix: Water
 Analysis Batch: 310369

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
pH	7.00	7.0		SU		99.7	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-209610-1 DU
Matrix: Water
Analysis Batch: 310369

Client Sample ID: CH-CCR-GeronimoC-1023
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
pH	7.1	H5	7.1		SU		0.1	5
Temperature	11.2	H5 T5	11.2		Degrees C		0	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-311093/5
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Organic Carbon	ND		0.50	mg/L			11/13/23 19:36	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			11/13/23 19:36	1
Total Organic Carbon - Quad	ND		0.50	mg/L			11/13/23 19:36	1

Lab Sample ID: LCS 550-311093/2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Duplicates	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-311093/3
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Total Organic Carbon	20.0	19.6		mg/L		98	90 - 110	6	20
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		96	90 - 110	4	20
Total Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	6	20

Lab Sample ID: 550-209656-F-1 MSD ^2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Total Organic Carbon	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20
Total Organic Carbon - Duplicates	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20
Total Organic Carbon - Quad	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20

Lab Sample ID: 550-209656-G-1 MS ^2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Total Organic Carbon	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-209656-G-1 MS ^2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Total Organic Carbon - Duplicates	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110	
Total Organic Carbon - Quad	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110	

Lab Sample ID: MB 550-311285/3
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Organic Carbon	ND		0.50	mg/L			11/15/23 15:02	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			11/15/23 15:02	1
Total Organic Carbon - Quad	ND		0.50	mg/L			11/15/23 15:02	1

Lab Sample ID: LCS 550-311285/4
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
Total Organic Carbon	20.0	20.0		mg/L		100	90 - 110	
Total Organic Carbon - Duplicates	20.0	20.0		mg/L		100	90 - 110	
Total Organic Carbon - Quad	20.0	20.0		mg/L		100	90 - 110	

Lab Sample ID: LCSD 550-311285/5
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
									Result	Qualifier
Total Organic Carbon	20.0	19.3		mg/L		97	90 - 110	4	20	
Total Organic Carbon - Duplicates	20.0	19.5		mg/L		97	90 - 110	3	20	
Total Organic Carbon - Quad	20.0	19.3		mg/L		97	90 - 110	4	20	

Lab Sample ID: 550-209656-F-1 MS ^20
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Total Organic Carbon	440		400	859		mg/L		105	90 - 110	
Total Organic Carbon - Duplicates	440		400	865		mg/L		106	90 - 110	
Total Organic Carbon - Quad	440		400	859		mg/L		105	90 - 110	

Lab Sample ID: 550-209656-F-1 MSD ^20
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
				Result	Qualifier						RPD	Limit
Total Organic Carbon	440		400	840		mg/L		100	90 - 110	2	20	
Total Organic Carbon - Duplicates	440		400	840		mg/L		100	90 - 110	3	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-209656-F-1 MSD ^20
Matrix: Water
Analysis Batch: 311285

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon - Quad	440		400	840		mg/L		100	90 - 110	2	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310716/3
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/07/23 22:41	1

Lab Sample ID: LCS 550-310716/5
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.3		mg/L		97	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310716/30
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.3		mg/L		96	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.0		mg/L		95	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	19.3		mg/L		96	90 - 110	1	20

Lab Sample ID: 550-209471-G-12 MSD
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.7		20.0	21.4		mg/L		93	90 - 110	6	20
Dissolved Organic Carbon - Duplicate	2.7		20.0	21.4		mg/L		93	90 - 110	6	20
Dissolved Organic Carbon - Quad	2.7		20.0	21.4		mg/L		93	90 - 110	6	20

Lab Sample ID: 550-209471-I-12 MS
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	2.7		20.0	22.8		mg/L		100	90 - 110

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209471-I-12 MS
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Dissolved Organic Carbon - Duplicate	2.7		20.0	22.8		mg/L		100	90 - 110
Dissolved Organic Carbon - Quad	2.7		20.0	22.8		mg/L		100	90 - 110

Lab Sample ID: MB 550-311092/3
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier							
Dissolved Organic Carbon	ND		0.50	mg/L			11/13/23 12:02		1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/13/23 12:02		1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/13/23 12:02		1

Lab Sample ID: LCS 550-311092/5
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-311092/6
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110	6	20
Dissolved Organic Carbon - Duplicate	20.0	19.1		mg/L		96	90 - 110	4	20
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	6	20

Lab Sample ID: 550-209610-6 MS
Matrix: Water
Analysis Batch: 311092

Client Sample ID: CH-CCR-GSX1R-1023
Prep Type: Dissolved

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Dissolved Organic Carbon	2.0		20.0	21.2		mg/L		96	90 - 110
Dissolved Organic Carbon - Duplicate	2.0		20.0	21.0		mg/L		95	90 - 110
Dissolved Organic Carbon - Quad	2.0		20.0	21.2		mg/L		96	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209610-6 MSD

Matrix: Water

Analysis Batch: 311092

Client Sample ID: CH-CCR-GSX1R-1023

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.0		20.0	21.6		mg/L		98	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	2.0		20.0	21.6		mg/L		98	90 - 110	3	20
Dissolved Organic Carbon - Quad	2.0		20.0	21.6		mg/L		98	90 - 110	2	20

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 310212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	300.0	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	300.0	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	300.0	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	300.0	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	300.0	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	300.0	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	300.0	
MB 550-310212/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310212/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310212/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209568-B-6 MS ^20	Matrix Spike	Total/NA	Water	300.0	
550-209568-B-6 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	300.0	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	300.0	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	300.0	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	300.0	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	300.0	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	300.0	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	300.0	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	300.0	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	300.0	
MB 550-310213/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310213/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310213/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209476-A-15 MS	Matrix Spike	Total/NA	Water	300.0	
550-209476-A-15 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8	
550-209610-2	CH-CCR-GeronimoC-1023	Dissolved	Water	200.8	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	200.8	
550-209610-4	CH-CCR-GeronimoD-1023	Dissolved	Water	200.8	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	200.8	
550-209610-6	CH-CCR-GSX1R-1023	Dissolved	Water	200.8	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	200.8	
550-209610-8	CH-CCR-EW01-1023	Dissolved	Water	200.8	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	200.8	
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	200.8	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	200.8	
550-209610-12	CH-CCR-EW03-1023	Dissolved	Water	200.8	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	200.8	
550-209610-14	CH-CCR-EW04-1023	Dissolved	Water	200.8	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	200.8	
550-209610-16	CH-CCR-HuntB-1023	Dissolved	Water	200.8	
MB 550-309968/1-A	Method Blank	Total/NA	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Prep Batch: 309968 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-309968/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309968/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209610-1 MS	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8	
550-209610-1 MSD	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8	

Prep Batch: 309970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	200.7	
550-209610-2	CH-CCR-GeronimoC-1023	Dissolved	Water	200.7	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7	
550-209610-4	CH-CCR-GeronimoD-1023	Dissolved	Water	200.7	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	200.7	
550-209610-6	CH-CCR-GSX1R-1023	Dissolved	Water	200.7	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	200.7	
550-209610-8	CH-CCR-EW01-1023	Dissolved	Water	200.7	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	200.7	
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	200.7	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	200.7	
550-209610-12	CH-CCR-EW03-1023	Dissolved	Water	200.7	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	200.7	
550-209610-14	CH-CCR-EW04-1023	Dissolved	Water	200.7	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	200.7	
550-209610-16	CH-CCR-HuntB-1023	Dissolved	Water	200.7	
MB 550-309970/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309970/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309970/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209610-3 MS	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7	
550-209610-3 MSD	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7	

Prep Batch: 310189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	245.1	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	245.1	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	245.1	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	245.1	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	245.1	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	245.1	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	245.1	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	245.1	
MB 550-310189/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-310189/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-310189/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209642-D-1-D MS	Matrix Spike	Total/NA	Water	245.1	
550-209642-D-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 310214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	245.1	310189
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	245.1	310189
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	245.1	310189
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	245.1	310189

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 310214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	245.1	310189
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	245.1	310189
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	245.1	310189
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	245.1	310189
MB 550-310189/1-A	Method Blank	Total/NA	Water	245.1	310189
LCS 550-310189/2-A	Lab Control Sample	Total/NA	Water	245.1	310189
LCSD 550-310189/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	310189
550-209642-D-1-D MS	Matrix Spike	Total/NA	Water	245.1	310189
550-209642-D-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	310189

Analysis Batch: 310234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-2	CH-CCR-GeronimoC-1023	Dissolved	Water	200.7	309970
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-4	CH-CCR-GeronimoD-1023	Dissolved	Water	200.7	309970
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-6	CH-CCR-GSX1R-1023	Dissolved	Water	200.7	309970
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-8	CH-CCR-EW01-1023	Dissolved	Water	200.7	309970
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	200.7	309970
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-12	CH-CCR-EW03-1023	Dissolved	Water	200.7	309970
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-14	CH-CCR-EW04-1023	Dissolved	Water	200.7	309970
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-16	CH-CCR-HuntB-1023	Dissolved	Water	200.7	309970
MB 550-309970/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309970
LCS 550-309970/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309970
LCSD 550-309970/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-3 MS	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-3 MSD	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970

Analysis Batch: 310542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8 LL	309968
550-209610-2	CH-CCR-GeronimoC-1023	Dissolved	Water	200.8 LL	309968
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	200.8 LL	309968
550-209610-4	CH-CCR-GeronimoD-1023	Dissolved	Water	200.8 LL	309968
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	200.8 LL	309968
550-209610-6	CH-CCR-GSX1R-1023	Dissolved	Water	200.8 LL	309968
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	200.8 LL	309968
550-209610-8	CH-CCR-EW01-1023	Dissolved	Water	200.8 LL	309968
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	200.8 LL	309968
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	200.8 LL	309968
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	200.8 LL	309968
550-209610-12	CH-CCR-EW03-1023	Dissolved	Water	200.8 LL	309968
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	200.8 LL	309968
550-209610-14	CH-CCR-EW04-1023	Dissolved	Water	200.8 LL	309968
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	200.8 LL	309968

Eurofins Phoenix

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 310542 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-16	CH-CCR-HuntB-1023	Dissolved	Water	200.8 LL	309968
MB 550-309968/1-A	Method Blank	Total/NA	Water	200.8 LL	309968
LCS 550-309968/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309968
LCSD 550-309968/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309968
550-209610-1 MS	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8 LL	309968
550-209610-1 MSD	CH-CCR-GeronimoC-1023	Total/NA	Water	200.8 LL	309968

Analysis Batch: 310604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	200.7	309970
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-3 MS	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970
550-209610-3 MSD	CH-CCR-GeronimoD-1023	Total/NA	Water	200.7 Rev 4.4	309970

Prep Batch: 378317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-5	CH-CCR-GSX1R-1023	Total Recoverable	Water	200.7	
550-209610-7	CH-CCR-EW01-1023	Total Recoverable	Water	200.7	
550-209610-9	CH-CCR-EW02-1023	Total Recoverable	Water	200.7	
550-209610-11	CH-CCR-EW03-1023	Total Recoverable	Water	200.7	
550-209610-13	CH-CCR-EW04-1023	Total Recoverable	Water	200.7	
MB 570-378317/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-378317/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-378317/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-158408-C-1-B MS	Matrix Spike	Dissolved	Water	200.7	
570-158408-C-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Prep Batch: 378376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total Recoverable	Water	200.7	
550-209610-3	CH-CCR-GeronimoD-1023	Total Recoverable	Water	200.7	
550-209610-15	CH-CCR-HuntB-1023	Total Recoverable	Water	200.7	
MB 570-378376/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-378376/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-378376/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-158471-C-10-B MS	Matrix Spike	Total Recoverable	Water	200.7	
570-158471-C-10-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 378999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-5	CH-CCR-GSX1R-1023	Total Recoverable	Water	200.7 Rev 4.4	378317
550-209610-7	CH-CCR-EW01-1023	Total Recoverable	Water	200.7 Rev 4.4	378317
550-209610-9	CH-CCR-EW02-1023	Total Recoverable	Water	200.7 Rev 4.4	378317
550-209610-11	CH-CCR-EW03-1023	Total Recoverable	Water	200.7 Rev 4.4	378317

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 378999 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-13	CH-CCR-EW04-1023	Total Recoverable	Water	200.7 Rev 4.4	378317
MB 570-378317/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	378317
LCS 570-378317/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	378317
LCSD 570-378317/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	378317
570-158408-C-1-B MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	378317
570-158408-C-1-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	378317

Analysis Batch: 379069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total Recoverable	Water	200.7 Rev 4.4	378376
550-209610-3	CH-CCR-GeronimoD-1023	Total Recoverable	Water	200.7 Rev 4.4	378376
550-209610-15	CH-CCR-HuntB-1023	Total Recoverable	Water	200.7 Rev 4.4	378376
MB 570-378376/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	378376
LCS 570-378376/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	378376
LCSD 570-378376/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	378376
570-158471-C-10-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	378376
570-158471-C-10-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	378376

General Chemistry

Analysis Batch: 310111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 2540C	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	SM 2540C	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	SM 2540C	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	SM 2540C	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	SM 2540C	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	SM 2540C	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	SM 2540C	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	SM 2540C	
MB 550-310111/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-310111/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-310111/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209609-B-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 310369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	SM 4500 H+ B	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310369/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310369/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209610-1 DU	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

General Chemistry

Analysis Batch: 310375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	350.1	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	350.1	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	350.1	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	350.1	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	350.1	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	350.1	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	350.1	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	350.1	
MB 550-310375/21	Method Blank	Total/NA	Water	350.1	
LCS 550-310375/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310375/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209812-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-209812-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 310379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 2320B	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	SM 2320B	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	SM 2320B	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	SM 2320B	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	SM 2320B	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	SM 2320B	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	SM 2320B	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	SM 2320B	
MB 550-310379/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-310379/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-310379/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209610-1 DU	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 310716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-2	CH-CCR-GeronimoC-1023	Dissolved	Water	SM 5310B	
MB 550-310716/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310716/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310716/30	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209471-G-12 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209471-I-12 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 311092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-4	CH-CCR-GeronimoD-1023	Dissolved	Water	SM 5310B	
550-209610-6	CH-CCR-GSX1R-1023	Dissolved	Water	SM 5310B	
550-209610-8	CH-CCR-EW01-1023	Dissolved	Water	SM 5310B	
550-209610-10	CH-CCR-EW02-1023	Dissolved	Water	SM 5310B	
550-209610-12	CH-CCR-EW03-1023	Dissolved	Water	SM 5310B	
550-209610-14	CH-CCR-EW04-1023	Dissolved	Water	SM 5310B	
550-209610-16	CH-CCR-HuntB-1023	Dissolved	Water	SM 5310B	
MB 550-311092/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-311092/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-311092/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209610-6 MS	CH-CCR-GSX1R-1023	Dissolved	Water	SM 5310B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

General Chemistry (Continued)

Analysis Batch: 311092 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-6 MSD	CH-CCR-GSX1R-1023	Dissolved	Water	SM 5310B	

Analysis Batch: 311093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	SM 5310B	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	SM 5310B	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	SM 5310B	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	SM 5310B	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	SM 5310B	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	SM 5310B	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	SM 5310B	
MB 550-311093/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-311093/2	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 550-311093/3	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209656-F-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-209656-G-1 MS ^2	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 311285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	SM 5310B	
MB 550-311285/3	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-311285/4	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 550-311285/5	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209656-F-1 MS ^20	Matrix Spike	Total/NA	Water	SM 5310B	
550-209656-F-1 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 631959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209610-1	CH-CCR-GeronimoC-1023	Total/NA	Water	353.2	
550-209610-3	CH-CCR-GeronimoD-1023	Total/NA	Water	353.2	
550-209610-5	CH-CCR-GSX1R-1023	Total/NA	Water	353.2	
550-209610-7	CH-CCR-EW01-1023	Total/NA	Water	353.2	
550-209610-9	CH-CCR-EW02-1023	Total/NA	Water	353.2	
550-209610-11	CH-CCR-EW03-1023	Total/NA	Water	353.2	
550-209610-13	CH-CCR-EW04-1023	Total/NA	Water	353.2	
550-209610-15	CH-CCR-HuntB-1023	Total/NA	Water	353.2	
MB 280-631959/104	Method Blank	Total/NA	Water	353.2	
MB 280-631959/60	Method Blank	Total/NA	Water	353.2	
LCS 280-631959/103	Lab Control Sample	Total/NA	Water	353.2	
550-209610-11 MS	CH-CCR-EW03-1023	Total/NA	Water	353.2	
550-209610-11 MSD	CH-CCR-EW03-1023	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-1

Date Collected: 10/23/23 16:30

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/30/23 17:12
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/30/23 22:12
Total Recoverable	Prep	200.7			378376	JP8N	EET CAL 4	10/30/23 09:23
Total Recoverable	Analysis	200.7 Rev 4.4		2	379069	P1R	EET CAL 4	10/31/23 18:33
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/30/23 23:49
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:05
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		10	310542	DSJ	EET PHX	11/03/23 16:57
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:02
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 12:59
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:01
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:42
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:49
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 21:53

Client Sample ID: CH-CCR-GeronimoC-1023

Lab Sample ID: 550-209610-2

Date Collected: 10/23/23 16:30

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/30/23 23:52
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		10	310542	DSJ	EET PHX	11/03/23 16:59
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 07:03

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-3

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 08:50
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/30/23 22:40
Total Recoverable	Prep	200.7			378376	JP8N	EET CAL 4	10/30/23 09:23
Total Recoverable	Analysis	200.7 Rev 4.4		2	379069	P1R	EET CAL 4	10/31/23 18:36
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/30/23 23:44
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		20	310604	GLW	EET PHX	11/06/23 14:02

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-3

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:31
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:04
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:01
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:03
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:54
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:52
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 22:16

Client Sample ID: CH-CCR-GeronimoD-1023

Lab Sample ID: 550-209610-4

Date Collected: 10/23/23 16:11

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/30/23 23:46
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:33
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 14:40

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-5

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 09:08
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/30/23 23:08
Total Recoverable	Prep	200.7			378317	JP8N	EET CAL 4	10/30/23 06:51
Total Recoverable	Analysis	200.7 Rev 4.4		2	378999	P1R	EET CAL 4	10/31/23 11:47
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/30/23 23:55
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:08
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:35
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:06
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:02
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:05
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:00
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-5

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:53
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 22:33

Client Sample ID: CH-CCR-GSX1R-1023

Lab Sample ID: 550-209610-6

Date Collected: 10/23/23 17:13

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/30/23 23:58
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:37
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 13:34

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-7

Date Collected: 10/23/23 15:15

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 10:22
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/30/23 23:36
Total Recoverable	Prep	200.7			378317	JP8N	EET CAL 4	10/30/23 06:51
Total Recoverable	Analysis	200.7 Rev 4.4		2	378999	P1R	EET CAL 4	10/31/23 11:49
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/31/23 00:00
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:11
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:39
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:24
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:04
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:19
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:06
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:54
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 22:54

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW01-1023

Lab Sample ID: 550-209610-8

Date Collected: 10/23/23 15:15

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/31/23 00:03
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:41
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 14:57

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-9

Date Collected: 10/23/23 15:45

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 10:40
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/31/23 00:04
Total Recoverable	Prep	200.7			378317	JP8N	EET CAL 4	10/30/23 06:51
Total Recoverable	Analysis	200.7 Rev 4.4		2	378999	P1R	EET CAL 4	10/31/23 11:52
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/31/23 00:12
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:13
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:43
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:35
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:05
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:21
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:13
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:55
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 23:16

Client Sample ID: CH-CCR-EW02-1023

Lab Sample ID: 550-209610-10

Date Collected: 10/23/23 15:45

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/31/23 00:15
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		10	310604	GLW	EET PHX	11/06/23 14:16
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 16:45
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 15:20

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-11

Date Collected: 10/23/23 16:45

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 10:58
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/31/23 00:32
Total Recoverable	Prep	200.7			378317	JP8N	EET CAL 4	10/30/23 06:51
Total Recoverable	Analysis	200.7 Rev 4.4		1	378999	P1R	EET CAL 4	10/31/23 11:39
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/31/23 00:17
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:19
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:01
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:37
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:07
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:23
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:19
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:57
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/13/23 23:33

Client Sample ID: CH-CCR-EW03-1023

Lab Sample ID: 550-209610-12

Date Collected: 10/23/23 16:45

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/31/23 00:20
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:03
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 15:42

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-13

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 11:17
Total/NA	Analysis	300.0		100	310212	SMA	EET PHX	10/31/23 00:59
Total Recoverable	Prep	200.7			378317	JP8N	EET CAL 4	10/30/23 06:51
Total Recoverable	Analysis	200.7 Rev 4.4		2	378999	P1R	EET CAL 4	10/31/23 11:57
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/31/23 00:23
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:22

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-13

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:05
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:39
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:08
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:29
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:26
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:58
Total/NA	Analysis	SM 5310B		1	311285	GRW	EET PHX	11/15/23 18:53

Client Sample ID: CH-CCR-EW04-1023

Lab Sample ID: 550-209610-14

Date Collected: 10/23/23 17:32

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/31/23 00:26
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:07
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 16:04

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-15

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310213	MMH	EET PHX	10/31/23 11:35
Total/NA	Analysis	300.0		100	310213	MMH	EET PHX	10/31/23 12:06
Total Recoverable	Prep	200.7			378376	JP8N	EET CAL 4	10/30/23 09:23
Total Recoverable	Analysis	200.7 Rev 4.4		2	379069	P1R	EET CAL 4	10/31/23 18:38
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		1	310234	GLW	EET PHX	10/31/23 00:29
Total/NA	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Total/NA	Analysis	200.7 Rev 4.4		10	310604	GLW	EET PHX	11/06/23 14:25
Total/NA	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Total/NA	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:09
Total/NA	Prep	245.1			310189	HHL	EET PHX	10/30/23 12:54
Total/NA	Analysis	245.1		1	310214	HHL	EET PHX	10/30/23 16:41
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:10
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:31
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 14:31
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-15

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	310369	MAN	EET PHX	11/01/23 13:59
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 00:54

Client Sample ID: CH-CCR-HuntB-1023

Lab Sample ID: 550-209610-16

Date Collected: 10/23/23 14:20

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309970	SGO	EET PHX	10/26/23 06:11
Dissolved	Analysis	200.7		1	310234	GLW	EET PHX	10/31/23 00:32
Dissolved	Prep	200.8			309968	SGO	EET PHX	10/26/23 05:43
Dissolved	Analysis	200.8 LL		5	310542	DSJ	EET PHX	11/03/23 17:11
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 16:26

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23 *

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209610-1
 SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

2091610

TestAmerica Laboratories, Inc.

Client Contact		Natalie Chrisman (602) 250-3608		Lab Contact: Danielle Roberts		Date:		COC No:	
Arizona Public Service 4801 Cholla Lake Rd Joseph City, AZ 86032 (928) 587-0319 Phone FAX		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT if different from Below: <u>2 weeks</u> <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Pam Norris (505) 598-8781		Carrier:		1 of 1 COCs	
Project Name: CCR Groundwater Monitoring Site: APS Cholla Power Plant (FAP) PO #: 300592358		Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)	
Sample Date		Sample Time		Matrix		# of Cont.		Sample Specific Notes:	
CH-CCR-GeronomoC-1023		142		W		14		Seepage Pump Port Sample	
CH-CCR-GeronomoD-1023		344		W		14		"	
CH-CCR-GSX1R-1023		546		W		14		"	
CH-CCR-EW01-1023		748		W		14		"	
CH-CCR-EW02-1023		940		W		14		"	
CH-CCR-EW03-1023		11412		W		14		"	
CH-CCR-EW04-1023		1344		W		14		"	
CH-CCR-HunIB-1023		1544		W		14		"	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____
Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Perform Method 200.8 with collision cell; * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

TEMP 30°C 3.3°C 11.6°C 1.1°C 1.4°C
ONICE - IDU

Custody Seals Intact: Yes No No Custody Seal No.:

Relinquished by: MSL Company: WSP Date/Time: 10-23-23 1344 Received by: [Signature] Date/Time: [Signature] Company: ETR PHX Date/Time: 10/26/23 1344

Relinquished by: _____ Date/Time: _____ Received in Laboratory by: [Signature] Date/Time: _____ Company: ETR PHX Date/Time: 10/26/23 1344

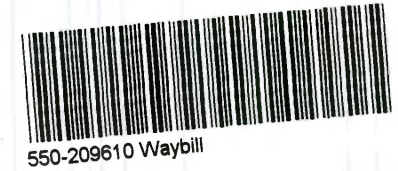


550-209610 Chain of Custody

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

159469-434 MTW EXP 04/24



550-209610 Waybill

ORIGIN ID: INWA (602) 437-3340
TESTAMERICA-PHOENIX
TESTAMERICA
4625 E COTTON CENTER BLVD
SUITE 189
PHOENIX, AZ 85040
UNITED STATES US

SHIP DATE: 26OCT23
ACTWGT: 48.10 LB MAN
CAD: 0875926/CAFE3755
DIMS: 25x14x13 IN

BILL RECIPIENT

LEW/ABJ/13585

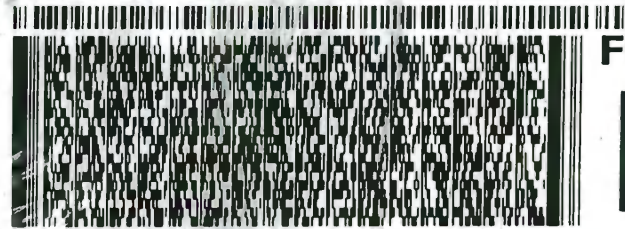
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 896-5494
PO: YES

REF: 6550-86764

DEPT: SAMPLE RECEIVING



FedEx
Express



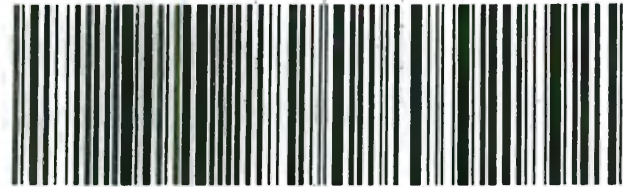
J230202051201

TRK# 6388 9413 2894
0201

FRI - 27 OCT 10:30A
PRIORITY OVERNIGHT

QZ DTHA

92780
CA-US SNA



RT 678
ST 5.2
5
10:30
D
2894
10.27

- 1
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- 8
- 9
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- 11
- 12
- 13
- 14



Chain of Custody Record

Client Information (Sub Contract Lab)		Lab PM: Eshelman, Linda	Carrier Tracking No(s): 550-38110-1																																																																								
Client Contact: Shipping/Receiving		State of Origin: Arizona	Page: Page 1 of 1																																																																								
Company: TestAmerica Laboratories, Inc.		E-Mail: linda.eshelman@et.eurofins.com	Job #: 550-209610-1																																																																								
Address: 4955 Yarrow Street, City: Anvada, State: CO, 80002		Accreditations Required (See note): State - Arizona, State Program - Arizona	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:																																																																								
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		Due Date Requested: 11/7/2023																																																																									
Email: 303-736-0100(Tel) 303-431-7171(Fax)		TAT Requested (days):	Analysis Requested M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)																																																																								
Project Name: CCR Groundwater Monitoring		PO #:																																																																									
Site: Arizona Public Service		WO #:	Total Number of Containers 1																																																																								
Project #: 55009651		Project #: 55009651																																																																									
SOW#:		SSOW#:	Special Instructions/Note: 353, 2 Pres																																																																								
<table border="1"> <thead> <tr> <th>Sample Identification - Client ID (Lab ID)</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (C=Comp, G=grab)</th> <th>Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)</th> <th>Preservation Code:</th> <th>Field Filtered Sample (Yes or No)</th> <th>Perform MS/MSD (Yes or No)</th> </tr> </thead> <tbody> <tr> <td>CH-CCR-GeronimoC-1023 (550-209610-1)</td> <td>10/23/23</td> <td>16:30 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-GeronimoD-1023 (550-209610-3)</td> <td>10/23/23</td> <td>16:11 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-GSX1R-1023 (550-209610-5)</td> <td>10/23/23</td> <td>17:13 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-EW01-1023 (550-209610-7)</td> <td>10/23/23</td> <td>15:15 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-EW02-1023 (550-209610-9)</td> <td>10/23/23</td> <td>15:45 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-EW03-1023 (550-209610-11)</td> <td>10/23/23</td> <td>16:45 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-EW04-1023 (550-209610-13)</td> <td>10/23/23</td> <td>17:32 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>CH-CCR-HuntB-1023 (550-209610-15)</td> <td>10/23/23</td> <td>14:20 Arizona</td> <td>Water</td> <td>Water</td> <td>X</td> <td>X</td> <td>1</td> </tr> </tbody> </table>		Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	CH-CCR-GeronimoC-1023 (550-209610-1)	10/23/23	16:30 Arizona	Water	Water	X	X	1	CH-CCR-GeronimoD-1023 (550-209610-3)	10/23/23	16:11 Arizona	Water	Water	X	X	1	CH-CCR-GSX1R-1023 (550-209610-5)	10/23/23	17:13 Arizona	Water	Water	X	X	1	CH-CCR-EW01-1023 (550-209610-7)	10/23/23	15:15 Arizona	Water	Water	X	X	1	CH-CCR-EW02-1023 (550-209610-9)	10/23/23	15:45 Arizona	Water	Water	X	X	1	CH-CCR-EW03-1023 (550-209610-11)	10/23/23	16:45 Arizona	Water	Water	X	X	1	CH-CCR-EW04-1023 (550-209610-13)	10/23/23	17:32 Arizona	Water	Water	X	X	1	CH-CCR-HuntB-1023 (550-209610-15)	10/23/23	14:20 Arizona	Water	Water	X	X	1	Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)																																																																				
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CH-CCR-GeronimoD-1023 (550-209610-3)	10/23/23	16:11 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-GSX1R-1023 (550-209610-5)	10/23/23	17:13 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-EW01-1023 (550-209610-7)	10/23/23	15:15 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-EW02-1023 (550-209610-9)	10/23/23	15:45 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-EW03-1023 (550-209610-11)	10/23/23	16:45 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-EW04-1023 (550-209610-13)	10/23/23	17:32 Arizona	Water	Water	X	X	1																																																																				
CH-CCR-HuntB-1023 (550-209610-15)	10/23/23	14:20 Arizona	Water	Water	X	X	1																																																																				
Possible Hazard Identification Unconfirmed		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months																																																																									
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Requirements:																																																																									
Empty Kit Relinquished by:		Method of Shipment:																																																																									
Relinquished by: Gene 10-26-23 15:30		Date: 11/7/2023																																																																									
Relinquished by: [Signature]		Received by: [Signature]																																																																									
Relinquished by: [Signature]		Received by: [Signature]																																																																									
Custody Seals Intact: Δ Yes Δ No		Cooler Temperature(s) °C and Other Remarks: 0.7 CF 0.13 R MOM U																																																																									



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209610-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209610

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209610-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209610

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 10/27/23 12:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2219810
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

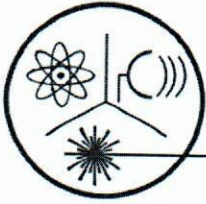
Job Number: 550-209610-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 209610
List Number: 3
Creator: Martinez, Anthony

List Source: Eurofins Denver
List Creation: 10/28/23 01:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121

Website: www.radsafe.com

(480) 897-9459

FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service

400 N. 5th Street

Phoenix, AZ 85004

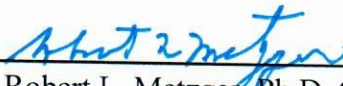
Sampling Date: November 21, 2023

Sample Received: November 22, 2023

Analysis Completed: December 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD05-1023	2.7 ± 0.3	1.4 ± 0.4	4.1 ± 0.5

Date of Analysis	11/24/2023	11/24/2023	11/24/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

12/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 21, 2023 16:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

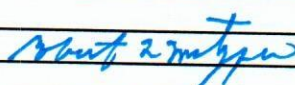
Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

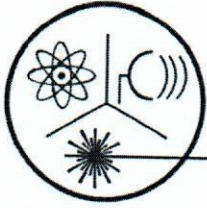
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/24/2023	4.1 ± 0.5	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/24/2023	2.7 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/24/2023	1.4 ± 0.4	

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73310
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-FD05-1023
 Authorized Signature: 
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

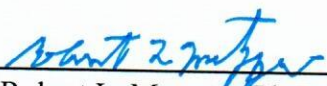
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 21, 2023
Sample Received: November 22, 2023
Analysis Completed: December 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44D-1023	2.8 ± 0.3	1.8 ± 0.4	4.6 ± 0.5

Date of Analysis	11/24/2023	11/24/2023	11/24/2023
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Robert L. Metzger, Ph.D, C.H.P.

12/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 21, 2023 8:46 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Quarterly

Composite of four quarterly samples

Date Q1 collected: _____

Date Q2 collected: _____

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/24/2023	4.6 ± 0.5	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/24/2023	2.8 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/24/2023	1.8 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73311 _____

Lab ID Number: AZ0462 _____

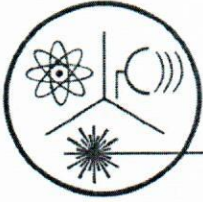
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M44D-1023

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

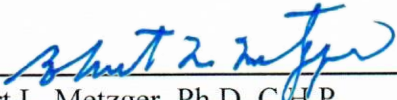
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M63A-1023	0.9 ± 0.2	< 0.7	0.9 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 11, 2023 12:33 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	0.9 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	0.9 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

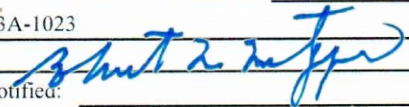
Specimen Number: RSE72901

Lab ID Number: AZ0462

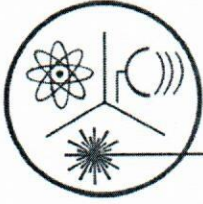
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M63A-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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FAX (480) 892-5446

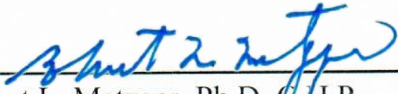
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M64A-1023	0.7 ± 0.2	< 0.7	0.7 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 11, 2023 15:15 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	0.7 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	0.7 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<


Specimen Number: RSE72902 _____

Lab ID Number: AZ0462 _____

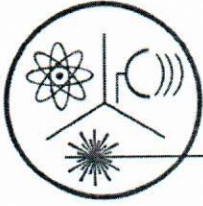
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M64A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123R-1023	< 0.4	1.0 ± 0.3	1.0 ± 0.3

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 11, 2023 13:52 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

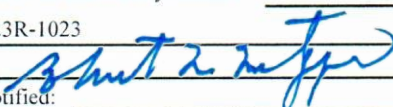
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

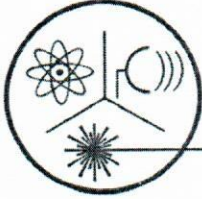
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.0 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	1.0 ± 0.3	

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72903
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-W123R-1023
 Authorized Signature: 
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service

Sampling Date: October 13, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FAP-1023	90 ± 15	92 ± 15	182 ± 21

Date of Analysis	10/23/2023	10/23/2023	10/23/2023
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Robert L. Metzger, Ph.D., C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 13, 2023 8:55 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

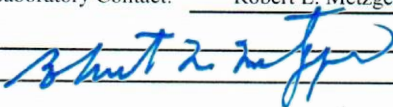
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

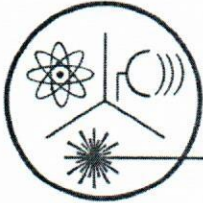
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
ASTM D6239			Uranium 234	4007	_____	_____	_____
ASTM D6239			Uranium 235	4008	_____	_____	_____
ASTM D6239			Uranium 238	4009	_____	_____	_____
EPA 901.1	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/23/2023	182.0 ± 21.2	X
EPA 901.1		1 pCi/L	Radium 226	4020	10/23/2023	90.0 ± 15.0	_____
EPA 901.1		1 pCi/L	Radium 228	4030	10/23/2023	92.0 ± 15.0	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72904 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-FAP-1023 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

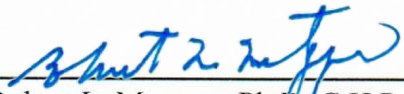
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD06-1023	1.1 ± 0.2	< 0.7	1.1 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D., C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 11, 2023 13:31 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.1 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	1.1 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72905 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-FD06-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Client Information

Name: Natalie Chrisman/602-250-3608
 Company: Arizona Public Service
 Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032
 Phone: 928-587-0319
 Site: APS Cholla Power Plant (FAP)

Drinking Water Compliance

Sample ID & Location (DWR#)	Collection		Media (DW*, WW*, Other)
	Date	Time	
CH-CCR-M63A-1023	10/11/2023	1233	GW
CH-CCR-M64A-1023	10/11/2023	1515	GW
CH-CCR-W123R-1023	10/11/2023	1352	GW
CH-CCR-FAP-1023	10/13/2023	855	GW
CH-CCR-FD06-1023	10/11/2023	1331	GW

Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
					X	X	X					72901
					X	X	X					72902
					X	X	X					72903
					X	X	X					72904
					X	X	X					72905

Sample Receipt

Total No. of Containers: _____
 Chain of Custody Seals: _____
 Container Condition: _____
 Lab No.: _____

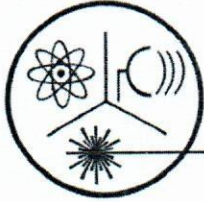
Invoice to: _____
 PO #: 300592346

Instructions/Comments: _____
 Method: HPGe

Refringished By: *HANNAH Dreyer* Company: WSP
 Received By: *Jessy A. Crand* Company: RSE
 Date/time: *10/11/23* Date/time: *10/13/23*
 Date/time: _____ Date/time: _____
 Date/time: _____ Date/time: _____

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.
 u:\client\forms\cofc_fm

4:50 PM



Radiation Safety Engineering, Inc.

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(480) 897-9459
FAX (480) 892-5446

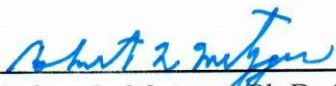
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EW01-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/10/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 23, 2023 15:15 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73038

Lab ID Number: AZ0462

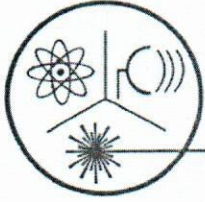
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-EW01-1023

Authorized Signature: _____ *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EW02-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/10/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 23, 2023 15:45 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73039 _____

Lab ID Number: AZ0462 _____

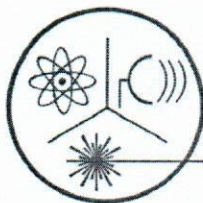
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-EW02-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

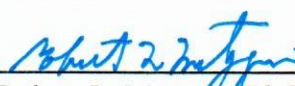
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EW03-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/10/2023
Date

Laboratory License Number AZ0462

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 23, 2023 16:45 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73040

Lab ID Number: AZ0462

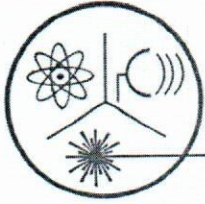
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-EW03-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

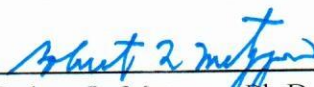
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EW04-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/10/2023 Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 23, 2023 17:32 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

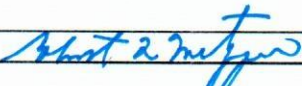
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

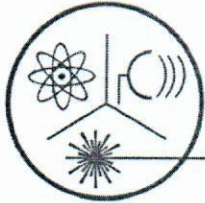
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73041
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-EW04-1023
 Authorized Signature: 
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

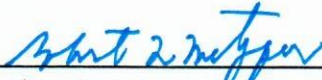
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-GSX1R-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/10/2023
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 23, 2023 17:13 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73042 _____

Lab ID Number: AZ0462 _____

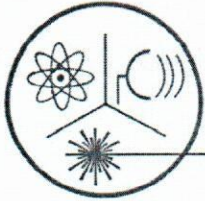
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-GSX1R-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

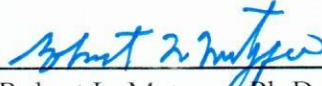
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-HuntB-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/10/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 23, 2023 14:20 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73043 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-HuntB-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____

Client Information

Name: Natalie Christmann 602-250-3608

Company: Arizona Public Service

Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032

Phone: 928-587-0319

Site: APS Cholla Power Plant (FAP)

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection		Media (TW, MW, Other)	Drinking Water Compliance													
	Date	Time		Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air		
CH-CCR-EW01-1023	10/23/23	1515	GW					X	X	X						73038	
CH-CCR-EW02-1023	10/23/23	1545	GW					X	X	X						73039	
CH-CCR-EW03-1023	10/23/23	1645	GW					X	X	X						73040	
CH-CCR-EW04-1023	10/23/23	1732	GW					X	X	X						73041	
CH-CCR-GSX1R-1023	10/23/23	1713	GW					X	X	X						73042	
CH-CCR-HuntB-1023	10/23/23	1420	GW					X	X	X						73043	
Sample Receipt				Invoice to: PO #: 300592346										Instructions/Comments			
Total No. of Containers														Method HPGe			
Chain of Custody Seals																	
Container Condition																	
Lab No.																	
Reinquished By: <i>Handwritten Signature</i>		Company: WSP		Date/time: 10/25/23		Received By: <i>Handwritten Signature</i>		Company: RSE		Date/time: 10-25-23							
Reinquished By:		Company:		Date/time:		Received By:		Company:		Date/time:							

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.
u:\client\forms\colc\fm

2:02



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 11/2/2023 1:48:38 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
SDG NUMBER APS Cholla Power Plant (BAP)

JOB NUMBER

550-209146-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



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Authorized for release by
Rachel Sester, Project Manager I
Rachel.Sester@et.eurofinsus.com
Designee for
Linda Eshelman, Project Manager II
linda.eshelman@et.eurofinsus.com
(602)659-7681

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R8	Sample RPD exceeded the method acceptance limit.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-209146-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209146-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/13/2023 4:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.0°C, 2.0°C, 2.0°C and 2.4°C

HPLC/IC

Method 300_ORGFMS: Due to the high concentration of chloride and sulfate the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309721 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300_ORGFMS: Due to the high concentration of chloride and sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309930 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-310012 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 550-310012 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 2540C_Calcd: The sample duplicate (DUP) precision for analytical batch 550-309541 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209146-1	CH-CCR-M52A-1023	Water	10/11/23 16:22	10/13/23 16:49
550-209146-2	CH-CCR-M52A-1023	Water	10/11/23 16:22	10/13/23 16:49
550-209146-3	CH-CCR-M55A-1023	Water	10/12/23 10:28	10/13/23 16:49
550-209146-4	CH-CCR-M55A-1023	Water	10/12/23 10:28	10/13/23 16:49
550-209146-5	CH-CCR-MW79A-1023	Water	10/13/23 11:03	10/13/23 16:49
550-209146-6	CH-CCR-MW79A-1023	Water	10/13/23 11:03	10/13/23 16:49
550-209146-7	CH-CCR-FD02-1023	Water	10/13/23 15:37	10/13/23 16:49
550-209146-8	CH-CCR-FD02-1023	Water	10/13/23 15:37	10/13/23 16:49
550-209146-9	CH-CCR-W302-1023	Water	10/12/23 16:07	10/13/23 16:49
550-209146-10	CH-CCR-W302-1023	Water	10/12/23 16:07	10/13/23 16:49
550-209146-11	CH-CCR-W304-1023	Water	10/12/23 14:27	10/13/23 16:49
550-209146-12	CH-CCR-W304-1023	Water	10/12/23 14:27	10/13/23 16:49
550-209146-13	CH-CCR-W307R-1023	Water	10/12/23 13:09	10/13/23 16:49
550-209146-14	CH-CCR-W307R-1023	Water	10/12/23 13:09	10/13/23 16:49
550-209146-15	CH-CCR-W308-1023	Water	10/12/23 11:32	10/13/23 16:49
550-209146-16	CH-CCR-W308-1023	Water	10/12/23 11:32	10/13/23 16:49
550-209146-17	CH-CCR-W309-1023	Water	10/12/23 09:23	10/13/23 16:49
550-209146-18	CH-CCR-W309-1023	Water	10/12/23 09:23	10/13/23 16:49
550-209146-19	CH-CCR-W317-1023	Water	10/11/23 10:16	10/13/23 16:49
550-209146-20	CH-CCR-FD03-1023	Water	10/12/23 16:20	10/13/23 16:49
550-209146-21	CH-CCR-FD03-1023	Water	10/12/23 16:20	10/13/23 16:49
550-209146-22	CH-CCR-FD04-1023	Water	10/11/23 16:10	10/13/23 16:49
550-209146-23	CH-CCR-BAP-1023	Water	10/13/23 09:55	10/13/23 16:49
550-209146-24	CH-CCR-BAP-1023	Water	10/13/23 09:55	10/13/23 16:49

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.7	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.21	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.58		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0061		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.013		0.0050	mg/L	10		200.8 LL	Total/NA
Cadmium	0.0014		0.0010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.052		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.060	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	8200		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.3		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	51		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.60		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.45	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.44		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	1.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0071		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.015		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0050	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Selenium	0.14		0.0050	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.53		0.10	mg/L	1		353.2	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.8		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.9		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.89		0.40	mg/L	1		300.0	Total/NA
Sulfate	2400	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.15	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0063		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.011		0.0050	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0094		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.014	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.77		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.78		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.77		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.8		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.2		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	8.9		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.52		0.40	mg/L	1		300.0	Total/NA
Sulfate	2400	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.16	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	95		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0060		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.015		0.0050	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0088		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.015	T5	0.0050	mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023 (Continued)

Lab Sample ID: 550-209146-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.73		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.74		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.73		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	9.0		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	2200	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.41	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.59		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.053		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0063		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.016		0.0050	mg/L	10		200.8 LL	Total/NA
Chromium	0.048		0.010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0065		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0080	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8600		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.2		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	6.0		5.0	ug/L	10		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.52		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.37	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0059		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.0095		0.0050	mg/L	10		200.8 LL	Total/NA
Chromium	0.016		0.010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0092		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0054	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.84		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.83		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.84		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.26		0.10	mg/L	1		200.7	Dissolved
Manganese	2.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	9.3		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.62		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.24	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.010		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00042		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.0019		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.054		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.020	T5	0.00050	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023 (Continued)

Lab Sample ID: 550-209146-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.0		0.010	mg/L	1		200.7	Dissolved
Arsenic	1.2		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	53		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.54		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.42	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.22		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00089		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0075		0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.0092		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0016		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0015	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0025		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9100		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.21		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.78		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	1.4		0.50	ug/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	40	mg/L	20		300.0	Total/NA
Fluoride	1.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	3200	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.35	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.45		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.46		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0011		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0070		0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.016		0.0010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0088	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.16		0.00050	mg/L	1		200.8 LL	Total/NA
Nitrate Nitrite as N	2.9		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.86		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.84		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.86		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.45		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.99		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	40	mg/L	20		300.0	Total/NA
Sulfate	650	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.056	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.18		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0046		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.032		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0016	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3700		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.61		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	100	mg/L	50		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023 (Continued)

Lab Sample ID: 550-209146-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.25	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.6		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	150		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.010		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00047		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.0025		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.053		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.00050		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.020	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	1.0		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	51		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78		2.0	mg/L	1		300.0	Total/NA
Sulfate	33		2.0	mg/L	1		300.0	Total/NA
Lithium	0.055	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.19		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0043		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.033		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0016	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3800		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	40	mg/L	20		300.0	Total/NA
Fluoride	4.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	3100	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.20	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023 (Continued)

Lab Sample ID: 550-209146-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	560		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	310		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.22		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.0025		0.0010	mg/L	1		200.8 LL	Total/NA
Arsenic	0.021		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.55		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00029		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.015		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0044		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.0095		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.029	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0095		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00014		0.00010	mg/L	1		200.8 LL	Total/NA
Ammonia	0.089		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8	D1	1.0	mg/L	2		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.9	D1	1.0	mg/L	2		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8	D1	1.0	mg/L	2		SM 5310B	Total/NA
Dissolved Organic Carbon	1.9		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.9		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.045		0.010	mg/L	1		200.7	Dissolved
Arsenic	11		0.50	ug/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	100	mg/L			10/25/23 19:28	50
Fluoride	1.7	D2	0.80	mg/L			10/14/23 19:21	2
Sulfate	2900	D2	100	mg/L			10/25/23 19:28	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:56	1
Lithium	0.21	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:03	1
Boron	3.7		0.050	mg/L		10/16/23 08:14	10/18/23 20:56	1
Calcium	650		2.0	mg/L		10/16/23 08:14	10/18/23 20:56	1
Iron	0.58		0.10	mg/L		10/16/23 08:14	10/18/23 20:56	1
Manganese	2.3		0.010	mg/L		10/16/23 08:14	10/18/23 20:56	1
Potassium	2.4		0.50	mg/L		10/16/23 08:14	10/18/23 20:56	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Arsenic	0.0061		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Barium	0.013		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Cadmium	0.0014		0.0010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Cobalt	0.052		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Molybdenum	0.060	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:33	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 11:57	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:07	1
Total Dissolved Solids (SM 2540C)	8200		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/18/23 14:06	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:58	1
Manganese	2.3		0.010	mg/L		10/16/23 08:14	10/18/23 20:58	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:35	10
Cobalt	51		5.0	ug/L		10/16/23 09:20	10/18/23 15:35	10

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300	D2	100	mg/L			10/25/23 20:04	50
Fluoride	0.60		0.40	mg/L			10/14/23 19:39	1
Sulfate	3300	D2	100	mg/L			10/25/23 20:04	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:07	1
Lithium	0.45	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:07	1
Boron	0.44		0.050	mg/L		10/16/23 08:14	10/18/23 21:07	1
Calcium	710		2.0	mg/L		10/16/23 08:14	10/18/23 21:07	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:07	1
Magnesium	170		2.0	mg/L		10/16/23 08:14	10/18/23 21:07	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:07	1
Potassium	1.4		0.50	mg/L		10/16/23 08:14	10/18/23 21:07	1
Sodium	3300		5.0	mg/L		10/16/23 08:14	10/19/23 15:37	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Arsenic	0.0071		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Barium	0.015		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Molybdenum	0.0050	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Selenium	0.14		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:43	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:02	1
Nitrate Nitrite as N (EPA 353.2)	0.53		0.10	mg/L			10/19/23 20:09	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:07	1
Temperature (SM 4500 H+ B)	10.2	H5 T5	0.1	Degrees C			10/18/23 14:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:10	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:10	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.9		5.0	ug/L		10/16/23 09:20	10/18/23 15:45	10
Cobalt	ND		5.0	ug/L		10/16/23 09:20	10/18/23 15:45	10

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	100	mg/L			10/25/23 21:36	50
Fluoride	0.89		0.40	mg/L			10/14/23 20:16	1
Sulfate	2400	D2	100	mg/L			10/25/23 21:36	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:13	1
Lithium	0.15	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:11	1
Boron	0.37		0.050	mg/L		10/16/23 08:14	10/18/23 21:13	1
Calcium	740		2.0	mg/L		10/16/23 08:14	10/18/23 21:13	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:13	1
Magnesium	90		2.0	mg/L		10/16/23 08:14	10/18/23 21:13	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:13	1
Potassium	9.7		0.50	mg/L		10/16/23 08:14	10/18/23 21:13	1
Sodium	1600		2.5	mg/L		10/16/23 08:14	10/19/23 14:37	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:47	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0063		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Barium	0.011		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:47	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:47	10
Cobalt	0.0094		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Molybdenum	0.014	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:47	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:03	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:11	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:30	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:30	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Total Dissolved Solids (SM 2540C)	7300		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:12	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.77		0.50	mg/L			10/30/23 19:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.78		0.50	mg/L			10/30/23 19:29	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.77		0.50	mg/L			10/30/23 19:29	1

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:15	1
Manganese	3.8		0.010	mg/L		10/16/23 08:14	10/18/23 21:15	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		5.0	ug/L		10/16/23 09:20	10/18/23 15:49	10
Cobalt	8.9		5.0	ug/L		10/16/23 09:20	10/18/23 15:49	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	100	mg/L			10/25/23 22:13	50
Fluoride	0.52		0.40	mg/L			10/14/23 21:48	1
Sulfate	2400	D2	100	mg/L			10/25/23 22:13	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:18	1
Lithium	0.16	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:15	1
Boron	0.35		0.050	mg/L		10/16/23 08:14	10/18/23 21:18	1
Calcium	780		2.0	mg/L		10/16/23 08:14	10/18/23 21:18	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:18	1
Magnesium	95		2.0	mg/L		10/16/23 08:14	10/18/23 21:18	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:18	1
Potassium	11		0.50	mg/L		10/16/23 08:14	10/18/23 21:18	1
Sodium	1500		2.5	mg/L		10/16/23 08:14	10/19/23 14:40	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Arsenic	0.0060		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Barium	0.015		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Cobalt	0.0088		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Molybdenum	0.015	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:51	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:05	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:13	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:43	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:43	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Total Dissolved Solids (SM 2540C)	7300		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:13	1
Temperature (SM 4500 H+ B)	12.7	H5 T5	0.1	Degrees C			10/18/23 14:13	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.73		0.50	mg/L			10/30/23 19:51	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.74		0.50	mg/L			10/30/23 19:51	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.73		0.50	mg/L			10/30/23 19:51	1

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:21	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:21	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:53	10
Cobalt	9.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:53	10

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	100	mg/L			10/25/23 22:50	50
Fluoride	1.1		0.40	mg/L			10/14/23 22:25	1
Sulfate	2200	D2	100	mg/L			10/25/23 22:50	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:24	1
Lithium	0.41	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:19	1
Boron	0.59		0.050	mg/L		10/16/23 08:14	10/18/23 21:24	1
Calcium	770		2.0	mg/L		10/16/23 08:14	10/18/23 21:24	1
Iron	0.23		0.10	mg/L		10/16/23 08:14	10/18/23 21:24	1
Magnesium	160		2.0	mg/L		10/16/23 08:14	10/18/23 21:24	1
Manganese	0.053		0.010	mg/L		10/16/23 08:14	10/18/23 21:24	1
Potassium	6.0		0.50	mg/L		10/16/23 08:14	10/18/23 21:24	1
Sodium	2000		2.5	mg/L		10/16/23 08:14	10/19/23 14:43	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Arsenic	0.0063		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Barium	0.016		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Chromium	0.048		0.010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Cobalt	0.0065		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0080	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:55	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:06	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:15	1
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/17/23 17:50	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/17/23 17:50	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Total Dissolved Solids (SM 2540C)	8600		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:14	1
Temperature (SM 4500 H+ B)	11.5	H5 T5	0.1	Degrees C			10/18/23 14:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:27	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:27	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		5.0	ug/L		10/16/23 09:20	10/18/23 15:57	10
Cobalt	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:57	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	100	mg/L			10/25/23 23:27	50
Fluoride	0.52		0.40	mg/L			10/14/23 23:01	1
Sulfate	2600	D2	100	mg/L			10/25/23 23:27	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:30	1
Lithium	0.37	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:23	1
Boron	0.42		0.050	mg/L		10/16/23 08:14	10/18/23 21:30	1
Calcium	720		2.0	mg/L		10/16/23 08:14	10/18/23 21:30	1
Iron	0.37		0.10	mg/L		10/16/23 08:14	10/18/23 21:30	1
Magnesium	110		2.0	mg/L		10/16/23 08:14	10/18/23 21:30	1
Manganese	2.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:30	1
Potassium	6.0		0.50	mg/L		10/16/23 08:14	10/18/23 21:30	1
Sodium	1900		2.5	mg/L		10/16/23 08:14	10/19/23 14:46	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Arsenic	0.0059		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Barium	0.0095		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Chromium	0.016		0.010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Cobalt	0.0092		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Molybdenum	0.0054	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:59	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:46	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:08	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:17	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 17:56	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 17:56	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:16	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:16	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.84		0.50	mg/L			10/30/23 20:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.83		0.50	mg/L			10/30/23 20:29	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.84		0.50	mg/L			10/30/23 20:29	1

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26		0.10	mg/L		10/16/23 08:14	10/18/23 21:32	1
Manganese	2.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:32	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 16:01	10
Cobalt	9.3		5.0	ug/L		10/16/23 09:20	10/18/23 16:01	10

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	100	mg/L			10/26/23 00:59	50
Fluoride	0.62		0.40	mg/L			10/14/23 23:38	1
Sulfate	2800	D2	100	mg/L			10/26/23 00:59	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:36	1
Lithium	0.24	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:27	1
Boron	2.5		0.050	mg/L		10/16/23 08:20	10/18/23 19:36	1
Calcium	700		2.0	mg/L		10/16/23 08:20	10/18/23 19:36	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:36	1
Magnesium	140		2.0	mg/L		10/16/23 08:20	10/18/23 19:36	1
Manganese	2.2		0.010	mg/L		10/16/23 08:20	10/18/23 19:36	1
Potassium	6.8		0.50	mg/L		10/16/23 08:20	10/18/23 19:36	1
Sodium	1700		2.5	mg/L		10/16/23 08:20	10/19/23 14:09	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Arsenic	0.0013		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Barium	0.010		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Cadmium	0.00042		0.00010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Chromium	0.0019		0.0010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Cobalt	0.054		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.020	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:11	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:09	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:43	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:03	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:17	1
Temperature (SM 4500 H+ B)	10.8	H5 T5	0.1	Degrees C			10/18/23 14:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:39	1
Manganese	2.0		0.010	mg/L		10/16/23 08:20	10/18/23 19:39	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.2		0.50	ug/L		10/16/23 09:27	10/17/23 11:13	1
Cobalt	53		0.50	ug/L		10/16/23 09:27	10/17/23 11:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	100	mg/L			10/26/23 01:36	50
Fluoride	0.54		0.40	mg/L			10/15/23 00:15	1
Sulfate	2600	D2	100	mg/L			10/26/23 01:36	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:42	1
Lithium	0.42	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:31	1
Boron	0.41		0.050	mg/L		10/16/23 08:20	10/18/23 19:42	1
Calcium	810		2.0	mg/L		10/16/23 08:20	10/18/23 19:42	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:42	1
Magnesium	130		2.0	mg/L		10/16/23 08:20	10/18/23 19:42	1
Manganese	0.22		0.010	mg/L		10/16/23 08:20	10/18/23 19:42	1
Potassium	8.0		0.50	mg/L		10/16/23 08:20	10/18/23 19:42	1
Sodium	2100		2.5	mg/L		10/16/23 08:20	10/19/23 14:12	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Arsenic	0.00089		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Barium	0.0075		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Chromium	0.0092		0.0010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Cobalt	0.0016		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Molybdenum	0.0015	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Selenium	0.0025		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:15	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:11	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:45	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:10	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:10	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Total Dissolved Solids (SM 2540C)	9100		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/18/23 14:18	1
Temperature (SM 4500 H+ B)	12.0	H5 T5	0.1	Degrees C			10/18/23 14:18	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:45	1
Manganese	0.21		0.010	mg/L		10/16/23 08:20	10/18/23 19:45	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.78		0.50	ug/L		10/16/23 09:27	10/17/23 11:17	1
Cobalt	1.4		0.50	ug/L		10/16/23 09:27	10/17/23 11:17	1

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	40	mg/L			10/24/23 23:19	20
Fluoride	1.1		0.40	mg/L			10/15/23 01:47	1
Sulfate	3200	D2	100	mg/L			10/26/23 02:13	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:48	1
Lithium	0.35	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:48	1
Boron	0.45		0.050	mg/L		10/16/23 08:20	10/18/23 19:48	1
Calcium	460		2.0	mg/L		10/16/23 08:20	10/18/23 19:48	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:48	1
Magnesium	90		2.0	mg/L		10/16/23 08:20	10/18/23 19:48	1
Manganese	0.46		0.010	mg/L		10/16/23 08:20	10/18/23 19:48	1
Potassium	6.7		0.50	mg/L		10/16/23 08:20	10/18/23 19:48	1
Sodium	1800		2.5	mg/L		10/16/23 08:20	10/19/23 14:15	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Arsenic	0.0011		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Barium	0.0070		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Chromium	0.016		0.0010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0088	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Selenium	0.16		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:19	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:12	1
Nitrate Nitrite as N (EPA 353.2)	2.9		0.10	mg/L			10/19/23 20:47	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:17	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:17	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Total Dissolved Solids (SM 2540C)	7200		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:19	1
Temperature (SM 4500 H+ B)	12.2	H5 T5	0.1	Degrees C			10/18/23 14:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.86		0.50	mg/L			10/30/23 22:08	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.84		0.50	mg/L			10/30/23 22:08	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.86		0.50	mg/L			10/30/23 22:08	1

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:56	1
Manganese	0.45		0.010	mg/L		10/16/23 08:20	10/18/23 19:56	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.99		0.50	ug/L		10/16/23 09:27	10/17/23 11:21	1
Cobalt	ND		0.50	ug/L		10/16/23 09:27	10/17/23 11:21	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	40	mg/L			10/25/23 02:42	20
Fluoride	ND		0.40	mg/L			10/16/23 22:46	1
Sulfate	650	D2	40	mg/L			10/25/23 02:42	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:33	1
Lithium	0.056	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:52	1
Boron	0.18		0.050	mg/L		10/16/23 08:20	10/18/23 19:33	1
Calcium	350	M3	2.0	mg/L		10/16/23 08:20	10/18/23 19:33	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Arsenic	0.0046		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Barium	0.032		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Molybdenum	0.0016	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:09	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3700		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:24	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:24	1

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	100	mg/L			10/26/23 02:49	50
Fluoride	0.61		0.40	mg/L			10/15/23 02:24	1
Sulfate	2800	D2	100	mg/L			10/26/23 02:49	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:59	1
Lithium	0.25	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:04	1
Boron	2.6		0.050	mg/L		10/16/23 08:20	10/18/23 19:59	1
Calcium	720		2.0	mg/L		10/16/23 08:20	10/18/23 19:59	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:59	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	150		2.0	mg/L		10/16/23 08:20	10/18/23 19:59	1
Manganese	2.2		0.010	mg/L		10/16/23 08:20	10/18/23 19:59	1
Potassium	6.7		0.50	mg/L		10/16/23 08:20	10/18/23 19:59	1
Sodium	1700		2.5	mg/L		10/16/23 08:20	10/19/23 14:18	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Arsenic	0.0012		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Barium	0.010		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Cadmium	0.00047		0.00010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Chromium	0.0025		0.0010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Cobalt	0.053		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Lead	0.00050		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Molybdenum	0.020	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:23	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:14	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:49	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:24	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:24	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Total Dissolved Solids (SM 2540C)	7900		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:20	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 20:02	1
Manganese	2.1		0.010	mg/L		10/16/23 08:20	10/18/23 20:02	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0		0.50	ug/L		10/16/23 09:27	10/17/23 11:25	1
Cobalt	51		0.50	ug/L		10/16/23 09:27	10/17/23 11:25	1

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Date Collected: 10/11/23 16:10

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78		2.0	mg/L			10/24/23 23:56	1
Fluoride	ND		0.40	mg/L			10/15/23 03:01	1
Sulfate	33		2.0	mg/L			10/24/23 23:56	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 20:05	1
Lithium	0.055	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:08	1
Boron	0.19		0.050	mg/L		10/16/23 08:20	10/18/23 20:05	1
Calcium	350		2.0	mg/L		10/16/23 08:20	10/18/23 20:05	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Arsenic	0.0043		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Barium	0.033		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Molybdenum	0.0016	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:27	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3800		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:21	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:21	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	40	mg/L			10/25/23 00:15	20
Fluoride	4.3		0.40	mg/L			10/15/23 03:37	1
Sulfate	3100	D2	100	mg/L			10/26/23 04:58	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 20:07	1
Lithium	0.20	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:12	1
Boron	4.7		0.050	mg/L		10/16/23 08:20	10/18/23 20:07	1
Calcium	560		2.0	mg/L		10/16/23 08:20	10/18/23 20:07	1
Iron	14		0.10	mg/L		10/16/23 08:20	10/18/23 20:07	1
Magnesium	310		2.0	mg/L		10/16/23 08:20	10/18/23 20:07	1
Manganese	0.22		0.010	mg/L		10/16/23 08:20	10/18/23 20:07	1
Potassium	32		0.50	mg/L		10/16/23 08:20	10/18/23 20:07	1
Sodium	1400		2.5	mg/L		10/16/23 08:20	10/19/23 14:20	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0025		0.0010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Arsenic	0.021		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Barium	0.55		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Cadmium	0.00029		0.00010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Chromium	0.015		0.0010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Cobalt	0.0044		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Lead	0.0095		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Molybdenum	0.029	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Selenium	0.0095		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Thallium	0.00014		0.00010	mg/L		10/16/23 09:27	10/17/23 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.089		0.050	mg/L			10/30/23 11:42	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:51	1
Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			10/17/23 18:30	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			10/17/23 18:30	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	8.3	H5	1.7	SU			10/18/23 14:27	1
Temperature (SM 4500 H+ B)	12.5	H5 T5	0.1	Degrees C			10/18/23 14:27	1
Total Organic Carbon (SM 5310B)	1.8	D1	1.0	mg/L			10/27/23 03:22	2
Total Organic Carbon - Duplicates (SM 5310B)	1.9	D1	1.0	mg/L			10/27/23 03:22	2
Total Organic Carbon - Quad (SM 5310B)	1.8	D1	1.0	mg/L			10/27/23 03:22	2

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.9		0.50	mg/L			10/30/23 22:47	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.0		0.50	mg/L			10/30/23 22:47	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.9		0.50	mg/L			10/30/23 22:47	1

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 20:10	1
Manganese	0.045		0.010	mg/L		10/16/23 08:20	10/18/23 20:10	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		0.50	ug/L		10/16/23 09:27	10/17/23 11:56	1
Cobalt	ND		0.50	ug/L		10/16/23 09:27	10/17/23 11:56	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-309476/2
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/16/23 20:26	1
Fluoride	ND		0.40	mg/L			10/16/23 20:26	1
Sulfate	ND		2.0	mg/L			10/16/23 20:26	1

Lab Sample ID: LCS 550-309476/5
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	18.9		mg/L		94	90 - 110
Fluoride	4.00	3.96		mg/L		99	90 - 110
Sulfate	20.0	18.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-309476/6
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	18.9		mg/L		94	90 - 110	0	20
Fluoride	4.00	4.00		mg/L		100	90 - 110	1	20
Sulfate	20.0	18.9		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309476

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.05		mg/L					

Lab Sample ID: MB 550-309580/1042
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/18/23 03:09	1
Fluoride	ND		0.40	mg/L			10/18/23 03:09	1
Sulfate	ND		2.0	mg/L			10/18/23 03:09	1

Lab Sample ID: LCS 550-309580/64
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.35		mg/L		109	90 - 110
Sulfate	20.0	20.7		mg/L		104	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-309580/65
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.34		mg/L		108	90 - 110	0	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: MB 550-309721/2
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/14/23 12:54	1
Fluoride	ND		0.40	mg/L			10/14/23 12:54	1
Sulfate	ND		2.0	mg/L			10/14/23 12:54	1

Lab Sample ID: LCS 550-309721/5
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.24		mg/L		106	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-309721/6
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.26		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-209145-A-2 MS
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	270	E2 M3	20.0	96.9	M3	mg/L		-888	80 - 120
Fluoride	ND		4.00	4.29		mg/L		101	80 - 120
Sulfate	360	E2 M3	20.0	358	E2 M3	mg/L		3	80 - 120

Lab Sample ID: 550-209145-A-2 MSD
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	270	E2 M3	20.0	93.5	M3	mg/L		-905	80 - 120	4	20
Fluoride	ND		4.00	4.42		mg/L		104	80 - 120	3	20
Sulfate	360	E2 M3	20.0	358	E2 M3	mg/L		2	80 - 120	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-309841/2
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/21/23 14:43	1
Fluoride	ND		0.40	mg/L			10/21/23 14:43	1
Sulfate	ND		2.0	mg/L			10/21/23 14:43	1

Lab Sample ID: LCS 550-309841/5
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		101	90 - 110
Fluoride	4.00	4.22		mg/L		105	90 - 110
Sulfate	20.0	20.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309841/6
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	4.21		mg/L		105	90 - 110	0	20
Sulfate	20.0	20.0		mg/L		100	90 - 110	0	20

Lab Sample ID: MB 550-309930/2
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/24/23 12:02	1
Fluoride	ND		0.40	mg/L			10/24/23 12:02	1
Sulfate	ND		2.0	mg/L			10/24/23 12:02	1

Lab Sample ID: LCS 550-309930/5
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-309930/6
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.19		mg/L		105	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209520-E-1 MS
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	96	M3	20.0	109	E2 M3	mg/L		67		80 - 120
Fluoride	1.1		4.00	5.07		mg/L		98		80 - 120
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12		80 - 120

Lab Sample ID: 550-209520-E-1 MSD
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier		Result	Qualifier							
Chloride	96	M3	20.0	110	E2 M3	mg/L		70		80 - 120	1	20
Fluoride	1.1		4.00	4.78		mg/L		91		80 - 120	6	20
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12		80 - 120	0	20

Lab Sample ID: MB 550-309932/40
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		2.0	mg/L			10/25/23 01:47	1
Fluoride	ND		0.40	mg/L			10/25/23 01:47	1
Sulfate	ND		2.0	mg/L			10/25/23 01:47	1

Lab Sample ID: LCS 550-309932/41
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Chloride	20.0	20.7		mg/L		104		90 - 110
Fluoride	4.00	4.26		mg/L		106		90 - 110
Sulfate	20.0	20.9		mg/L		104		90 - 110

Lab Sample ID: LCSD 550-309932/42
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
		Result	Qualifier							
Chloride	20.0	20.7		mg/L		103		90 - 110	0	20
Fluoride	4.00	4.23		mg/L		106		90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104		90 - 110	0	20

Lab Sample ID: MB 550-310012/1
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		2.0	mg/L			10/25/23 13:22	1
Fluoride	ND		0.40	mg/L			10/25/23 13:22	1
Sulfate	ND		2.0	mg/L			10/25/23 13:22	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-310012/6
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		103	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-310012/7
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.34		mg/L		108	90 - 110	0	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-208988-F-8 MS ^20
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	310		400	677		mg/L		91	80 - 120
Fluoride	ND		80.0	83.8		mg/L		102	80 - 120
Sulfate	760	M1 R4 M2	400	1030	M2	mg/L		66	80 - 120

Lab Sample ID: 550-208988-F-8 MSD ^20
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	310		400	790		mg/L		119	80 - 120	15	20
Fluoride	ND		80.0	82.0		mg/L		100	80 - 120	2	20
Sulfate	760	M1 R4 M2	400	1310	M1 R4	mg/L		136	80 - 120	24	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309404/1-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309404

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Boron	ND		0.050	mg/L		10/16/23 08:14	10/18/23 20:19	1
Calcium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:19	1
Magnesium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Potassium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1
Sodium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-309404/2-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	
Beryllium	1.00	0.985		mg/L		99	85 - 115	
Boron	1.00	1.01		mg/L		101	85 - 115	
Calcium	21.0	20.9		mg/L		99	85 - 115	
Iron	1.00	0.919		mg/L		92	85 - 115	
Magnesium	21.0	20.4		mg/L		97	85 - 115	
Manganese	1.00	0.954		mg/L		95	85 - 115	
Potassium	20.0	20.0		mg/L		100	85 - 115	
Sodium	20.0	19.7		mg/L		98	85 - 115	

Lab Sample ID: LCSD 550-309404/3-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits		RPD	Limit
Beryllium	1.00	1.00		mg/L		100	85 - 115	2	20	
Boron	1.00	1.02		mg/L		102	85 - 115	1	20	
Calcium	21.0	21.2		mg/L		101	85 - 115	2	20	
Iron	1.00	0.934		mg/L		93	85 - 115	2	20	
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20	
Manganese	1.00	0.964		mg/L		96	85 - 115	1	20	
Potassium	20.0	20.3		mg/L		101	85 - 115	2	20	
Sodium	20.0	20.0		mg/L		100	85 - 115	2	20	

Lab Sample ID: 550-209145-I-2-A MS
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec	
									Limits	
Beryllium	ND		1.00	1.00		mg/L		100	70 - 130	
Boron	0.21		1.00	1.24		mg/L		103	70 - 130	
Calcium	130		21.0	151	M3	mg/L		78	70 - 130	
Iron	0.13		1.00	1.09		mg/L		97	70 - 130	
Magnesium	70		21.0	88.0		mg/L		88	70 - 130	
Manganese	0.67		1.00	1.59		mg/L		91	70 - 130	
Potassium	4.9		20.0	25.9		mg/L		105	70 - 130	
Sodium	290	M3	20.0	298	M3	mg/L		60	70 - 130	

Lab Sample ID: 550-209145-I-2-B MSD
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	
									Limits		RPD	Limit
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130	2	20	
Boron	0.21		1.00	1.25		mg/L		104	70 - 130	1	20	
Calcium	130		21.0	153	M3	mg/L		87	70 - 130	1	20	
Iron	0.13		1.00	1.11		mg/L		99	70 - 130	2	20	
Magnesium	70		21.0	89.1		mg/L		93	70 - 130	1	20	
Manganese	0.67		1.00	1.61		mg/L		93	70 - 130	1	20	
Potassium	4.9		20.0	26.3		mg/L		107	70 - 130	2	20	

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209145-I-2-B MSD
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	290	M3	20.0	302	M3	mg/L		82	70 - 130	1	20

Lab Sample ID: MB 550-309405/1-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309405

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00176	B1	0.0010	mg/L		10/16/23 08:20	10/18/23 19:19	1
Boron	ND		0.050	mg/L		10/16/23 08:20	10/18/23 19:19	1
Calcium	ND		2.0	mg/L		10/16/23 08:20	10/18/23 19:19	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:19	1
Magnesium	ND		2.0	mg/L		10/16/23 08:20	10/18/23 19:19	1
Manganese	ND		0.010	mg/L		10/16/23 08:20	10/18/23 19:19	1
Potassium	ND		0.50	mg/L		10/16/23 08:20	10/18/23 19:19	1
Sodium	ND		0.50	mg/L		10/16/23 08:20	10/18/23 19:19	1

Lab Sample ID: LCS 550-309405/2-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.978		mg/L		98	85 - 115
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	20.8		mg/L		99	85 - 115
Iron	1.00	0.904		mg/L		90	85 - 115
Magnesium	21.0	20.3		mg/L		97	85 - 115
Manganese	1.00	0.951		mg/L		95	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Sodium	20.0	19.4		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-309405/3-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.964		mg/L		96	85 - 115	2	20
Boron	1.00	0.988		mg/L		99	85 - 115	2	20
Calcium	21.0	20.4		mg/L		97	85 - 115	2	20
Iron	1.00	0.891		mg/L		89	85 - 115	1	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	2	20
Manganese	1.00	0.937		mg/L		94	85 - 115	1	20
Potassium	20.0	19.6		mg/L		98	85 - 115	1	20
Sodium	20.0	19.0		mg/L		95	85 - 115	2	20

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309620

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309620

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Boron	0.18		1.00	1.25		mg/L		107	70 - 130	
Calcium	350	M3	21.0	363	M3	mg/L		47	70 - 130	

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309620

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits			
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130		1	20
Boron	0.18		1.00	1.24		mg/L		106	70 - 130		1	20
Calcium	350	M3	21.0	361	M3	mg/L		39	70 - 130		0	20

Lab Sample ID: MB 280-631557/1-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631557

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		10/30/23 15:17	10/31/23 15:11	1

Lab Sample ID: LCS 280-631557/2-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Lithium	1.00	0.979		mg/L		98	90 - 112	

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	
Lithium	0.056	T5	1.00	1.06		mg/L		100	70 - 130	

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits			
Lithium	0.056	T5	1.00	1.06		mg/L		100	70 - 130		0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309417/1-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309417

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Arsenic	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Barium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-309417/1-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309417

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Chromium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Lead	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Molybdenum	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Selenium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Thallium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1

Lab Sample ID: LCS 550-309417/2-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0978		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115
Barium	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.0986		mg/L		99	85 - 115
Chromium	0.100	0.0975		mg/L		98	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.0994		mg/L		99	85 - 115
Molybdenum	0.100	0.0970		mg/L		97	85 - 115
Selenium	0.100	0.0930		mg/L		93	85 - 115
Thallium	0.100	0.0944		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-309417/3-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	0.100	0.0973		mg/L		97	85 - 115	1	20
Arsenic	0.100	0.0967		mg/L		97	85 - 115	0	20
Barium	0.100	0.111		mg/L		111	85 - 115	0	20
Cadmium	0.100	0.0980		mg/L		98	85 - 115	1	20
Chromium	0.100	0.0994		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	1	20
Lead	0.100	0.0980		mg/L		98	85 - 115	1	20
Molybdenum	0.100	0.0959		mg/L		96	85 - 115	1	20
Selenium	0.100	0.0938		mg/L		94	85 - 115	1	20
Thallium	0.100	0.0959		mg/L		96	85 - 115	2	20

Lab Sample ID: 550-209145-H-2-A MS ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.0992		mg/L		99	70 - 130
Arsenic	0.0093		0.100	0.109		mg/L		100	70 - 130
Barium	0.028		0.100	0.136		mg/L		108	70 - 130
Cadmium	ND		0.100	0.0962		mg/L		96	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209145-H-2-A MS ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	ND		0.100	0.0974		mg/L		97	70 - 130
Cobalt	ND		0.100	0.0974		mg/L		97	70 - 130
Lead	ND		0.100	0.0953		mg/L		95	70 - 130
Molybdenum	ND		0.100	0.102		mg/L		98	70 - 130
Selenium	ND		0.100	0.104		mg/L		104	70 - 130
Thallium	ND		0.100	0.0942		mg/L		94	70 - 130

Lab Sample ID: 550-209145-H-2-B MSD ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.0998		mg/L		100	70 - 130	1	20
Arsenic	0.0093		0.100	0.110		mg/L		101	70 - 130	1	20
Barium	0.028		0.100	0.141		mg/L		113	70 - 130	4	20
Cadmium	ND		0.100	0.0975		mg/L		97	70 - 130	1	20
Chromium	ND		0.100	0.0982		mg/L		98	70 - 130	1	20
Cobalt	ND		0.100	0.101		mg/L		101	70 - 130	3	20
Lead	ND		0.100	0.0924		mg/L		92	70 - 130	3	20
Molybdenum	ND		0.100	0.103		mg/L		100	70 - 130	1	20
Selenium	ND		0.100	0.101		mg/L		101	70 - 130	4	20
Thallium	ND		0.100	0.0922		mg/L		92	70 - 130	2	20

Lab Sample ID: MB 550-309418/1-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309418

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Arsenic	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Barium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Molybdenum	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 10:55	1

Lab Sample ID: LCS 550-309418/2-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0975		mg/L		98	85 - 115
Arsenic	0.100	0.0947		mg/L		95	85 - 115
Barium	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.0982		mg/L		98	85 - 115
Chromium	0.100	0.0927		mg/L		93	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309418/2-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.100	0.0978		mg/L		98	85 - 115
Lead	0.100	0.105		mg/L		105	85 - 115
Molybdenum	0.100	0.0967		mg/L		97	85 - 115
Selenium	0.100	0.0916		mg/L		92	85 - 115
Thallium	0.100	0.104		mg/L		104	85 - 115

Lab Sample ID: LCSD 550-309418/3-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.100		mg/L		100	85 - 115	3	20
Arsenic	0.100	0.0971		mg/L		97	85 - 115	2	20
Barium	0.100	0.114		mg/L		114	85 - 115	3	20
Cadmium	0.100	0.101		mg/L		101	85 - 115	3	20
Chromium	0.100	0.0960		mg/L		96	85 - 115	3	20
Cobalt	0.100	0.102		mg/L		102	85 - 115	4	20
Lead	0.100	0.108		mg/L		108	85 - 115	2	20
Molybdenum	0.100	0.0995		mg/L		100	85 - 115	3	20
Selenium	0.100	0.0937		mg/L		94	85 - 115	2	20
Thallium	0.100	0.108		mg/L		108	85 - 115	4	20

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309504

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.103		mg/L		103	70 - 130
Arsenic	0.0046		0.100	0.104		mg/L		99	70 - 130
Barium	0.032		0.100	0.147		mg/L		115	70 - 130
Cadmium	ND		0.100	0.0979		mg/L		98	70 - 130
Chromium	ND		0.100	0.0944		mg/L		94	70 - 130
Cobalt	ND		0.100	0.0956		mg/L		96	70 - 130
Lead	ND		0.100	0.0978		mg/L		98	70 - 130
Molybdenum	0.0016	T5	0.100	0.106		mg/L		105	70 - 130
Selenium	ND		0.100	0.0962		mg/L		96	70 - 130
Thallium	ND		0.100	0.0964		mg/L		96	70 - 130

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309504

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.103		mg/L		103	70 - 130	1	20
Arsenic	0.0046		0.100	0.104		mg/L		99	70 - 130	0	20
Barium	0.032		0.100	0.148		mg/L		116	70 - 130	1	20
Cadmium	ND		0.100	0.0969		mg/L		97	70 - 130	1	20
Chromium	ND		0.100	0.0958		mg/L		95	70 - 130	2	20
Cobalt	ND		0.100	0.0963		mg/L		96	70 - 130	1	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309504

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Lead	ND		0.100	0.0965		mg/L		97	70 - 130	1	20	
Molybdenum	0.0016	T5	0.100	0.106		mg/L		105	70 - 130	0	20	
Selenium	ND		0.100	0.0959		mg/L		96	70 - 130	0	20	
Thallium	ND		0.100	0.0987		mg/L		99	70 - 130	2	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-309427/1-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309427

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:14	1

Lab Sample ID: LCS 550-309427/2-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Mercury	0.00500	0.00445		mg/L		89	85 - 115	

Lab Sample ID: LCSD 550-309427/3-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Mercury	0.00500	0.00452		mg/L		90	85 - 115	2	20	

Lab Sample ID: 550-209146-17 MS
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W309-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Mercury	ND		0.00500	0.00571		mg/L		114	70 - 130	

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Mercury	ND		0.00500	0.00579		mg/L		116	70 - 130	

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Mercury	ND		0.00500	0.00545		mg/L		109	70 - 130	6	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310263/21
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 10:54	1

Lab Sample ID: MB 550-310263/60
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 11:53	1

Lab Sample ID: LCS 550-310263/22
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.932		mg/L		93	90 - 110

Lab Sample ID: LCS 550-310263/61
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-310263/23
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.957		mg/L		96	90 - 110	3	20

Lab Sample ID: LCSD 550-310263/62
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-209146-1 MS
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-M52A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		1.00	0.965		mg/L		97	90 - 110

Lab Sample ID: 550-209146-1 MSD
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-M52A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		1.00	1.01		mg/L		101	90 - 110	4	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-209520-F-1 MS
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.3		1.00	2.27		mg/L		100	90 - 110

Lab Sample ID: 550-209520-F-1 MSD
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.3		1.00	2.25		mg/L		98	90 - 110	1	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-630661/104
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/19/23 20:33	1

Lab Sample ID: MB 280-630661/60
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/19/23 19:05	1

Lab Sample ID: LCS 280-630661/59
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.83		mg/L		97	90 - 110

Lab Sample ID: 280-183024-D-2 MS
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.7		4.00	5.44		mg/L		94	90 - 110

Lab Sample ID: 280-183024-D-2 MSD
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.7		4.00	5.38		mg/L		92	90 - 110	1	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 280-183067-H-15 MS
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.13		4.00	3.94		mg/L		95	90 - 110

Lab Sample ID: 280-183067-H-15 MSD
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.13		4.00	3.95		mg/L		96	90 - 110	0	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-309527/5
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/17/23 14:54	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1

Lab Sample ID: LCS 550-309527/4
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	246		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309527/13
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	240		mg/L		96	90 - 110	2	20

Lab Sample ID: 550-209146-5 DU
Matrix: Water
Analysis Batch: 309527

Client Sample ID: CH-CCR-MW79A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	120		116		mg/L		0.5	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	120		116		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309445/1
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/16/23 14:41	1

Lab Sample ID: LCS 550-309445/2
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	992		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309445/3
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	972		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-209146-19 DU
Matrix: Water
Analysis Batch: 309445

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3700		3580		mg/L		3	10

Lab Sample ID: MB 550-309470/1
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/17/23 09:35	1

Lab Sample ID: LCS 550-309470/2
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309470/3
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	988		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-209104-B-5 DU
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4000		3960		mg/L		2	10

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309541/1
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/18/23 10:06	1

Lab Sample ID: LCS 550-309541/2
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309541/3
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-209096-A-1 DU
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300	R8	1480	R8	mg/L		13	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-309589/13
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/25
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/37
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-309589/49
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: 550-209146-19 DU
Matrix: Water
Analysis Batch: 309589

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.7	H5	SU		0.1	5
Temperature	11.3	H5 T5	11.7	H5	Degrees C		3	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-310115/5
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			10/26/23 20:01	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			10/26/23 20:01	1
Total Organic Carbon - Quad	ND		0.50	mg/L			10/26/23 20:01	1

Lab Sample ID: LCS 550-310115/6
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Duplicates	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Quad	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-310115/7
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Quad	20.0	21.0		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-209321-B-1 MSD
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Duplicates	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Quad	9.3		20.0	28.3		mg/L		95	90 - 110	4	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: 550-209321-E-1 MS
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Duplicates	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Quad	9.3		20.0	29.4		mg/L		101	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310248/5
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			10/30/23 15:16	1

Lab Sample ID: LCS 550-310248/8
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310248/9
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	1	20

Lab Sample ID: 550-209145-A-3 MSD
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209145-C-3 MS
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.2		mg/L		110	90 - 110

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 309476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	300.0	
MB 550-309476/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309476/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309476/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	300.0	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	300.0	

Analysis Batch: 309580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309580/1042	Method Blank	Total/NA	Water	300.0	
LCS 550-309580/64	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309580/65	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 309721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	300.0	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	300.0	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	300.0	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	300.0	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	300.0	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	300.0	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	300.0	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	300.0	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	300.0	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-309721/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309721/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309721/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209145-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-209145-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 309841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309841/6	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 309930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-309930/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309930/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309930/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209520-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209520-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 309932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	300.0	
MB 550-309932/40	Method Blank	Total/NA	Water	300.0	
LCS 550-309932/41	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309932/42	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	300.0	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	300.0	

Analysis Batch: 310012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	300.0	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	300.0	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	300.0	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	300.0	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	300.0	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	300.0	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	300.0	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	300.0	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-310012/1	Method Blank	Total/NA	Water	300.0	
LCS 550-310012/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310012/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-208988-F-8 MS ^20	Matrix Spike	Total/NA	Water	300.0	
550-208988-F-8 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7	
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.7	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7	
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.7	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7	
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.7	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7	
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.7	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7	
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.7	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7	
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.7	
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209145-I-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-209145-I-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 309405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309405 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.7	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7	
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.7	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7	
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.7	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7	
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.7	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7	
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.7	
MB 550-309405/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309405/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7	

Prep Batch: 309417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.8	
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.8	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.8	
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.8	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.8	
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.8	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.8	
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.8	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.8	
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.8	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.8	
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.8	
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209145-H-2-A MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-209145-H-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 309418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.8	
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.8	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.8	
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.8	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.8	
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.8	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.8	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.8	
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.8	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.8	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.8	
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309418/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309418/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309418/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.8	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.8	

Prep Batch: 309427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	245.1	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	245.1	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	245.1	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	245.1	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	245.1	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	245.1	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	245.1	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	245.1	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	245.1	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	245.1	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	245.1	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	245.1	
MB 550-309427/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-309427/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-309427/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209146-17 MS	CH-CCR-W309-1023	Total/NA	Water	245.1	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	245.1	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	245.1	

Analysis Batch: 309448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	245.1	309427
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	245.1	309427
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	245.1	309427
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	245.1	309427
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	245.1	309427
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	245.1	309427
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	245.1	309427
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	245.1	309427
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	245.1	309427
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	245.1	309427
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	245.1	309427
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	245.1	309427
MB 550-309427/1-A	Method Blank	Total/NA	Water	245.1	309427
LCS 550-309427/2-A	Lab Control Sample	Total/NA	Water	245.1	309427
LCSD 550-309427/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	309427
550-209146-17 MS	CH-CCR-W309-1023	Total/NA	Water	245.1	309427
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	245.1	309427
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	245.1	309427

Analysis Batch: 309504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.8 LL	309418

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QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 309504 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.8 LL	309418
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.8 LL	309418
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.8 LL	309418
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.8 LL	309418
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.8 LL	309418
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.8 LL	309418
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.8 LL	309418
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.8 LL	309418
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.8 LL	309418
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.8 LL	309418
MB 550-309418/1-A	Method Blank	Total/NA	Water	200.8 LL	309418
LCS 550-309418/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309418
LCSD 550-309418/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309418
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418

Analysis Batch: 309594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.8 LL	309417
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.8 LL	309417
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.8 LL	309417
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.8 LL	309417
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.8 LL	309417
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.8 LL	309417
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.8 LL	309417
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.8 LL	309417
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.8 LL	309417
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.8 LL	309417
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.8 LL	309417
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.8 LL	309417
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8 LL	309417
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309417
LCSD 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309417
550-209145-H-2-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	309417
550-209145-H-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	309417

Analysis Batch: 309620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.7	309405
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.7	309405
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.7	309405
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.7	309405
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.7	309405

Eurofins Phoenix

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 309620 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309405/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309405
LCS 550-309405/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309405
LCSD 550-309405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405

Analysis Batch: 309621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.7	309404
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.7	309404
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.7	309404
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.7	309404
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.7	309404
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.7	309404
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309404
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309404
LCSD 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-I-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-I-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	309404

Analysis Batch: 309664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	309405

Analysis Batch: 309669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	309404

Prep Batch: 631557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 631557 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7	
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7	

Analysis Batch: 631988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	631557
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	631557
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557

General Chemistry

Analysis Batch: 309445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	SM 2540C	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	SM 2540C	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	SM 2540C	
MB 550-309445/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309445/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309445/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209146-19 DU	CH-CCR-W317-1023	Total/NA	Water	SM 2540C	

Analysis Batch: 309470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	SM 2540C	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 2540C	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 2540C	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 2540C	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 2540C	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 309470 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 2540C	
MB 550-309470/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309470/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309470/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209104-B-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 2320B	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 2320B	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 2320B	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 2320B	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 2320B	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 2320B	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 2320B	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 2320B	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 2320B	
MB 550-309527/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-309527/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-309527/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209146-5 DU	CH-CCR-MW79A-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 309541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 2540C	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 2540C	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 2540C	
MB 550-309541/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309541/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309541/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209096-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 309589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-19 DU	CH-CCR-W317-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 310115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 5310B	
MB 550-310115/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-310115/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-310115/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209321-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-209321-E-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 310248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Dissolved	Water	SM 5310B	
550-209146-3	CH-CCR-M55A-1023	Dissolved	Water	SM 5310B	
550-209146-5	CH-CCR-MW79A-1023	Dissolved	Water	SM 5310B	
550-209146-7	CH-CCR-FD02-1023	Dissolved	Water	SM 5310B	
550-209146-9	CH-CCR-W302-1023	Dissolved	Water	SM 5310B	
550-209146-11	CH-CCR-W304-1023	Dissolved	Water	SM 5310B	
550-209146-13	CH-CCR-W307R-1023	Dissolved	Water	SM 5310B	
550-209146-15	CH-CCR-W308-1023	Dissolved	Water	SM 5310B	
550-209146-17	CH-CCR-W309-1023	Dissolved	Water	SM 5310B	
550-209146-20	CH-CCR-FD03-1023	Dissolved	Water	SM 5310B	
550-209146-23	CH-CCR-BAP-1023	Dissolved	Water	SM 5310B	
MB 550-310248/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310248/8	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310248/9	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209145-A-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209145-C-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 310263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	350.1	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	350.1	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	350.1	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	350.1	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	350.1	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	350.1	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	350.1	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	350.1	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	350.1	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	350.1	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	350.1	
MB 550-310263/21	Method Blank	Total/NA	Water	350.1	
MB 550-310263/60	Method Blank	Total/NA	Water	350.1	
LCS 550-310263/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-310263/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310263/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-310263/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209146-1 MS	CH-CCR-M52A-1023	Total/NA	Water	350.1	
550-209146-1 MSD	CH-CCR-M52A-1023	Total/NA	Water	350.1	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 310263 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209520-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-209520-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 630661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	353.2	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	353.2	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	353.2	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	353.2	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	353.2	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	353.2	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	353.2	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	353.2	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	353.2	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	353.2	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	353.2	
MB 280-630661/104	Method Blank	Total/NA	Water	353.2	
MB 280-630661/60	Method Blank	Total/NA	Water	353.2	
LCS 280-630661/103	Lab Control Sample	Total/NA	Water	353.2	
LCS 280-630661/59	Lab Control Sample	Total/NA	Water	353.2	
280-183024-D-2 MS	Matrix Spike	Total/NA	Water	353.2	
280-183024-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	
280-183067-H-15 MS	Matrix Spike	Total/NA	Water	353.2	
280-183067-H-15 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309721	MMH	EET PHX	10/14/23 19:21
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 19:28
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:56
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:03
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:33
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:29
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 11:57
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:07
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:06
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 18:55

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 20:58
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:35

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 19:39
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 20:04
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:07
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		10	309669	GLW	EET PHX	10/19/23 15:37
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:07
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:43
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:31
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:02

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:09
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:07
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:12

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:10
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:45

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 20:16
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 21:36
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:13
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:37
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:11
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:47
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:33
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:03
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:11
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:30
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:12
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:29

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:15
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:49

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 21:48
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 22:13
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:18
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:40
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:15
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:51
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:37
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:05
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:13
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:43
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:13
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:51

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:21
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:53

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 22:25
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 22:50
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:24
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:43
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:19
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:55
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:40
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:06
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:15
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:50
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:14
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:13

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:27
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:57

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 23:01
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 23:27
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:30
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:46
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:23
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:59

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:46
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:08
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:17
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:56
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:16
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:29

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:32
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 16:01

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 23:38
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 00:59
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:36
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:09
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:27
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:11
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:48
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:09
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:43
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:03
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:17
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:51

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:39
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:13

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 00:15
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 01:36
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:42
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:12
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:31
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:15
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:50
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:11
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:45
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:10
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:18
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 21:47

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:45
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:17

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 01:47
Total/NA	Analysis	300.0		20	309930	MMH	EET PHX	10/24/23 23:19
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 02:13
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:48
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:15
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:48
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:19
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:52
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:12
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:47
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:17
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:19
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:08

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:56
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:21

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	309932	MMH	EET PHX	10/25/23 02:42
Total/NA	Analysis	300.0		1	309476	MMH	EET PHX	10/16/23 22:46
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:33
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:52
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:09

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:27
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:24

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 02:24
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 02:49
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:59
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:18
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:04
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:23
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 16:00
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:14
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:49
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:24
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:20
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:30

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 20:02
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:25

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Date Collected: 10/11/23 16:10

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 03:01
Total/NA	Analysis	300.0		1	309930	MMH	EET PHX	10/24/23 23:56
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 20:05
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:08
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:27
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 16:02
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:21

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 03:37
Total/NA	Analysis	300.0		20	309930	MMH	EET PHX	10/25/23 00:15
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 04:58
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 20:07
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:20
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:12
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:54
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 11:42
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:51
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:30
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:27
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:47
Total/NA	Analysis	SM 5310B		2	310115	CXK	EET PHX	10/27/23 03:22

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 20:10
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:56

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Lithium

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



4625 E Cotton Center Blvd

Suite 189

Phoenix, AZ 85040

phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA

Other: CCR

209146

TestAmerica Laboratories, Inc.

Client Contact

Arizona Public Service

4801 Cholla Lake Rd

Joseph City, AZ 86032

(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (BAP)

PO #: 300592358

Natalie Chrisman
602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Pam Norris (505) 598-8781

Lab Contact: Danielle Roberts

Date:

Carrier:

SM 4500-HB (pH)

SM 2540C (TDS)

SM 5310B (DOC)

SM 4500-NH3 D (NH3 as N)

353.2 (NO3+NO2 as N)

SM 2320B (HCO3 Alk. as CaCO3)

COC No.: 1 of 4 COCs

Sampler:

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

Sample Identification

Sample Date

Sample Time

Sample Type (C=Comp, G=Grab)

Matrix

of Cont.

Filtered Sample (Y / N)

Perform MS / MSD (Y / N)

EPA 300.0 (Cl, F, SO4)

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K)

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)

EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)

EPA 200.7 - Total Lithium

EPA 200.7 - Dissolved (Fe, Mn)

EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)

EPA 200.8 - Dissolved (As, Co)

EPA 245.1 - Totals (Hg)

SM 4500-HB (pH)

SM 2540C (TDS)

SM 5310B (DOC)

SM 4500-NH3 D (NH3 as N)

353.2 (NO3+NO2 as N)

SM 2320B (HCO3 Alk. as CaCO3)

Sample Specific Notes:

Low Flow

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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell. *As marked on the bottle: perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No Custody Seal No.: Cooler Temp. (°C): Obs'd: Corr'd: Therm ID No.:

Relinquished by: *MP* Company: *WSP* Date/Time: *10-13-23 16:49* Received by: *EESS* Company: *EESS* Date/Time: *10-13-23 16:49*

Relinquished by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]* Received in Laboratory by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]*

Relinquished by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]* Received in Laboratory by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]*

Client Contact: **Natalie Chrisman** (602) 250-3608
 Analysis Turnaround Time: CALENDAR DAYS WORKING DAYS
 TAT if different from Below: 2 weeks 1 week 2 days 1 day
 Project Name: CCR Groundwater Monitoring
 Site: APS Cholla Power Plant (BAP)
 PO #: 300592358
 Regulatory Program: DW NPDES RCRA Other: CCR
 Date: 2011/11/23
 Lab Contact: Danielle Robert Carrier
 Carrier: 2011/11/23
 COC No.: 2 of 4 COCs

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)	EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)	EPA 200.7 - Totals (B, Ca, Be)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:	
CH-CR-FD02-1023	10/13/23	1537	G	W	10	*	N	X	X			X	X	X	X	X	X	X	X	X	X	X	X	Low Flow
CH-CR-W302-1023	10/12/23	1607	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CR-W304-1023	10/12/23	1427	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CR-W307R-1023	10/12/13	1309	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CR-W308-1023	10/12/23	1132	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CR-W309-1023	10/12/23	923	G	W	10	*	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CR-W317-1023	10/11/23	1016	G	W	9	N	Y	X			X			X	X	X	X	X					X	"

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Dispose by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
 Perform Method 200.8 with collision cell. * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No
 Custody Seal No.:
 Relinquished by: *MSR* Company: *WSP* Date/Time: *10-13-23 16:49*
 Relinquished by: Company: Date/Time:

Received by: Company: Date/Time:
 Received in Laboratory by: Company: Date/Time: *10-13-23 16:49*
Temp 2-4.2, 20.0, 22.0, 20.0
 Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record



Client Information (Sub Contract Lab)		Lab PM: Eshelman, Linda	Carrier Tracking No(s): 550-380222
Client Contact: Eshelman, Linda		State of Origin: Arizona	COC No: 550-380222
Shipping/Receiving		E-Mail: linda.eshelman@eurofins.com	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note): State - Arizona; State Program - Arizona	Job #: 550-209146-1
Address: 4955 Yarrow Street,		Analysis Requested Total Number of Containers: <input checked="" type="checkbox"/>	Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SZO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Y - Trizma Z - other (specify)
City: Avada			
State, Zip: CO, 80002			
Phone: 303-736-0100(Tel) 303-431-7171(Fax)			
Email: [Redacted]			
Due Date Requested: 10/26/2023		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 353.2_Pres Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> 200.7/200.7_P_TOT Lithium-Total	
TAT Requested (days):		Total Number of Containers: <input checked="" type="checkbox"/>	
PO #:		Special Instructions/Note: AZ Sample	
WO #:		AZ Sample	
Project # 55009651		AZ Sample	
SSOW#:		AZ Sample	
Site: Arizona Public Service		AZ Sample	
Sample Identification - Client ID (Lab ID)		AZ Sample	
Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oli, BT=TISSUE, A=Air)
10/11/23	10:16 Arizona	Water	Water
10/11/23	10:16 Arizona	MS	Water
10/11/23	10:16 Arizona	MSD	Water
10/12/23	16:20 Arizona		Water
10/11/23	16:10 Arizona		Water
10/13/23	09:55 Arizona		Water
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.			
Possible Hazard Identification Unconfirmed <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months			
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank 2			
Empty Kit Relinquished by _____ Date: _____			
Relinquished by _____ Date/Time _____		Received by _____ Date/Time _____	
Relinquished by _____ Date/Time _____		Received by _____ Date/Time _____	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Cooler Temperature(s) °C and Other Remarks:	



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209146-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209146
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209146-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209146
List Number: 2
Creator: Held, Wesley

List Source: Eurofins Denver
List Creation: 10/17/23 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

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JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (BAP)

JOB NUMBER

550-209146-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Authorized for release by
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(602)659-7681

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Revision 1



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R8	Sample RPD exceeded the method acceptance limit.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation **These commonly used abbreviations may or may not be present in this report.**

RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-209146-1

Laboratory: Eurofins Phoenix

Narrative

**Job Narrative
550-209146-1**

REVISION

The report being provided is a revision of the original report sent on 11/2/2023. The report (revision 1) is being revised due to Client requested a rerun for method 300.0, sample 550-209146-22.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/13/2023 4:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.0°C, 2.0°C, 2.0°C and 2.4°C

HPLC/IC

Method 300_ORGFMS: Due to the high concentration of chloride and sulfate the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309721 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300_ORGFMS: Due to the high concentration of chloride and sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309930 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-310012 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 300_ORGFMS: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 550-310012 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 2540C_Calcd: The sample duplicate (DUP) precision for analytical batch 550-309541 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-209146-1 (Continued)

Laboratory: Eurofins Phoenix (Continued)

Narrative

Job Narrative 550-209146-2

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/13/2023 4:49 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 2.0°C, 2.0°C, 2.0°C and 2.4°C

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209146-1	CH-CCR-M52A-1023	Water	10/11/23 16:22	10/13/23 16:49
550-209146-2	CH-CCR-M52A-1023	Water	10/11/23 16:22	10/13/23 16:49
550-209146-3	CH-CCR-M55A-1023	Water	10/12/23 10:28	10/13/23 16:49
550-209146-4	CH-CCR-M55A-1023	Water	10/12/23 10:28	10/13/23 16:49
550-209146-5	CH-CCR-MW79A-1023	Water	10/13/23 11:03	10/13/23 16:49
550-209146-6	CH-CCR-MW79A-1023	Water	10/13/23 11:03	10/13/23 16:49
550-209146-7	CH-CCR-FD02-1023	Water	10/13/23 15:37	10/13/23 16:49
550-209146-8	CH-CCR-FD02-1023	Water	10/13/23 15:37	10/13/23 16:49
550-209146-9	CH-CCR-W302-1023	Water	10/12/23 16:07	10/13/23 16:49
550-209146-10	CH-CCR-W302-1023	Water	10/12/23 16:07	10/13/23 16:49
550-209146-11	CH-CCR-W304-1023	Water	10/12/23 14:27	10/13/23 16:49
550-209146-12	CH-CCR-W304-1023	Water	10/12/23 14:27	10/13/23 16:49
550-209146-13	CH-CCR-W307R-1023	Water	10/12/23 13:09	10/13/23 16:49
550-209146-14	CH-CCR-W307R-1023	Water	10/12/23 13:09	10/13/23 16:49
550-209146-15	CH-CCR-W308-1023	Water	10/12/23 11:32	10/13/23 16:49
550-209146-16	CH-CCR-W308-1023	Water	10/12/23 11:32	10/13/23 16:49
550-209146-17	CH-CCR-W309-1023	Water	10/12/23 09:23	10/13/23 16:49
550-209146-18	CH-CCR-W309-1023	Water	10/12/23 09:23	10/13/23 16:49
550-209146-19	CH-CCR-W317-1023	Water	10/11/23 10:16	10/13/23 16:49
550-209146-20	CH-CCR-FD03-1023	Water	10/12/23 16:20	10/13/23 16:49
550-209146-21	CH-CCR-FD03-1023	Water	10/12/23 16:20	10/13/23 16:49
550-209146-22	CH-CCR-FD04-1023	Water	10/11/23 16:10	10/13/23 16:49
550-209146-23	CH-CCR-BAP-1023	Water	10/13/23 09:55	10/13/23 16:49
550-209146-24	CH-CCR-BAP-1023	Water	10/13/23 09:55	10/13/23 16:49

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.7	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.21	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.58		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	2.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0061		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.013		0.0050	mg/L	10		200.8 LL	Total/NA
Cadmium	0.0014		0.0010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.052		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.060	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Total Dissolved Solids	8200		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.3		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	51		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.60		0.40	mg/L	1		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.45	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.44		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	1.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0071		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.015		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0050	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Selenium	0.14		0.0050	mg/L	10		200.8 LL	Total/NA
Nitrate Nitrite as N	0.53		0.10	mg/L	1		353.2	Total/NA
Total Dissolved Solids	12000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.8		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.8		0.50	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.9		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.89		0.40	mg/L	1		300.0	Total/NA
Sulfate	2400	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.15	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0063		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.011		0.0050	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0094		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.014	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.77		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.78		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.77		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.8		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.2		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	8.9		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.52		0.40	mg/L	1		300.0	Total/NA
Sulfate	2400	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.16	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	95		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0060		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.015		0.0050	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0088		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.015	T5	0.0050	mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023 (Continued)

Lab Sample ID: 550-209146-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.73		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.74		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.73		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	9.0		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	2200	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.41	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.59		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.053		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0063		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.016		0.0050	mg/L	10		200.8 LL	Total/NA
Chromium	0.048		0.010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0065		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0080	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8600		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.2		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	6.0		5.0	ug/L	10		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.52		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.37	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	110		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0059		0.0050	mg/L	10		200.8 LL	Total/NA
Barium	0.0095		0.0050	mg/L	10		200.8 LL	Total/NA
Chromium	0.016		0.010	mg/L	10		200.8 LL	Total/NA
Cobalt	0.0092		0.0050	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0054	T5	0.0050	mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.84		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.83		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.84		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.26		0.10	mg/L	1		200.7	Dissolved
Manganese	2.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		5.0	ug/L	10		200.8 LL	Dissolved
Cobalt	9.3		5.0	ug/L	10		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.62		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.24	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.010		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00042		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.0019		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.054		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.020	T5	0.00050	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023 (Continued)

Lab Sample ID: 550-209146-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.0		0.010	mg/L	1		200.7	Dissolved
Arsenic	1.2		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	53		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.54		0.40	mg/L	1		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.42	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.22		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.00089		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0075		0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.0092		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0016		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0015	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0025		0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9100		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.21		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.78		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	1.4		0.50	ug/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	40	mg/L	20		300.0	Total/NA
Fluoride	1.1		0.40	mg/L	1		300.0	Total/NA
Sulfate	3200	D2	100	mg/L	50		300.0	Total/NA
Lithium	0.35	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.45		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.46		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0011		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0070		0.00050	mg/L	1		200.8 LL	Total/NA
Chromium	0.016		0.0010	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0088	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.16		0.00050	mg/L	1		200.8 LL	Total/NA
Nitrate Nitrite as N	2.9		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.86		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.84		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.86		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.45		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.99		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1600	D2	40	mg/L	20		300.0	Total/NA
Sulfate	650	D2	40	mg/L	20		300.0	Total/NA
Lithium	0.056	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.18		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0046		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.032		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0016	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3700		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.61		0.40	mg/L	1		300.0	Total/NA
Sulfate	2800	D2	100	mg/L	50		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023 (Continued)

Lab Sample ID: 550-209146-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.25	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.6		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	150		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.7		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.010		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00047		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.0025		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.053		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.00050		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.020	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	1.0		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	51		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	78		2.0	mg/L	1		300.0	Total/NA
Chloride	1500	D2	400	mg/L	200		300.0	Total/NA
Sulfate	33		2.0	mg/L	1		300.0	Total/NA
Lithium	0.055	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.19		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0043		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.033		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0016	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3800		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	40	mg/L	20		300.0	Total/NA
Fluoride	4.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	3100	D2	100	mg/L	50		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023 (Continued)

Lab Sample ID: 550-209146-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.20	T5	0.020	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	560		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	14		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	310		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.22		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	32		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.0025		0.0010	mg/L	1		200.8 LL	Total/NA
Arsenic	0.021		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.55		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00029		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.015		0.0010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0044		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.0095		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.029	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.0095		0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00014		0.00010	mg/L	1		200.8 LL	Total/NA
Ammonia	0.089		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	8.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8	D1	1.0	mg/L	2		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.9	D1	1.0	mg/L	2		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8	D1	1.0	mg/L	2		SM 5310B	Total/NA
Dissolved Organic Carbon	1.9		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.9		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.045		0.010	mg/L	1		200.7	Dissolved
Arsenic	11		0.50	ug/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	100	mg/L			10/25/23 19:28	50
Fluoride	1.7	D2	0.80	mg/L			10/14/23 19:21	2
Sulfate	2900	D2	100	mg/L			10/25/23 19:28	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:56	1
Lithium	0.21	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:03	1
Boron	3.7		0.050	mg/L		10/16/23 08:14	10/18/23 20:56	1
Calcium	650		2.0	mg/L		10/16/23 08:14	10/18/23 20:56	1
Iron	0.58		0.10	mg/L		10/16/23 08:14	10/18/23 20:56	1
Manganese	2.3		0.010	mg/L		10/16/23 08:14	10/18/23 20:56	1
Potassium	2.4		0.50	mg/L		10/16/23 08:14	10/18/23 20:56	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Arsenic	0.0061		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Barium	0.013		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Cadmium	0.0014		0.0010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:33	10
Cobalt	0.052		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Molybdenum	0.060	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:33	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:33	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 11:57	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:07	1
Total Dissolved Solids (SM 2540C)	8200		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/18/23 14:06	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4		0.50	mg/L			10/30/23 18:55	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:58	1
Manganese	2.3		0.010	mg/L		10/16/23 08:14	10/18/23 20:58	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:35	10
Cobalt	51		5.0	ug/L		10/16/23 09:20	10/18/23 15:35	10

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4300	D2	100	mg/L			10/25/23 20:04	50
Fluoride	0.60		0.40	mg/L			10/14/23 19:39	1
Sulfate	3300	D2	100	mg/L			10/25/23 20:04	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:07	1
Lithium	0.45	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:07	1
Boron	0.44		0.050	mg/L		10/16/23 08:14	10/18/23 21:07	1
Calcium	710		2.0	mg/L		10/16/23 08:14	10/18/23 21:07	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:07	1
Magnesium	170		2.0	mg/L		10/16/23 08:14	10/18/23 21:07	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:07	1
Potassium	1.4		0.50	mg/L		10/16/23 08:14	10/18/23 21:07	1
Sodium	3300		5.0	mg/L		10/16/23 08:14	10/19/23 15:37	10

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Arsenic	0.0071		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Barium	0.015		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:43	10
Cobalt	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Molybdenum	0.0050	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Selenium	0.14		0.0050	mg/L		10/16/23 09:20	10/18/23 15:43	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:43	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:31	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:02	1
Nitrate Nitrite as N (EPA 353.2)	0.53		0.10	mg/L			10/19/23 20:09	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	12000		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:07	1
Temperature (SM 4500 H+ B)	10.2	H5 T5	0.1	Degrees C			10/18/23 14:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1
Dissolved Organic Carbon - Quad (SM 5310B)	3.8		0.50	mg/L			10/30/23 19:12	1

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:10	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:10	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.9		5.0	ug/L		10/16/23 09:20	10/18/23 15:45	10
Cobalt	ND		5.0	ug/L		10/16/23 09:20	10/18/23 15:45	10

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	100	mg/L			10/25/23 21:36	50
Fluoride	0.89		0.40	mg/L			10/14/23 20:16	1
Sulfate	2400	D2	100	mg/L			10/25/23 21:36	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:13	1
Lithium	0.15	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:11	1
Boron	0.37		0.050	mg/L		10/16/23 08:14	10/18/23 21:13	1
Calcium	740		2.0	mg/L		10/16/23 08:14	10/18/23 21:13	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:13	1
Magnesium	90		2.0	mg/L		10/16/23 08:14	10/18/23 21:13	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:13	1
Potassium	9.7		0.50	mg/L		10/16/23 08:14	10/18/23 21:13	1
Sodium	1600		2.5	mg/L		10/16/23 08:14	10/19/23 14:37	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:47	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0063		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Barium	0.011		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:47	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:47	10
Cobalt	0.0094		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Molybdenum	0.014	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:47	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:47	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:03	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:11	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:30	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:30	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:30	1
Total Dissolved Solids (SM 2540C)	7300		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:12	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.77		0.50	mg/L			10/30/23 19:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.78		0.50	mg/L			10/30/23 19:29	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.77		0.50	mg/L			10/30/23 19:29	1

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:15	1
Manganese	3.8		0.010	mg/L		10/16/23 08:14	10/18/23 21:15	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		5.0	ug/L		10/16/23 09:20	10/18/23 15:49	10
Cobalt	8.9		5.0	ug/L		10/16/23 09:20	10/18/23 15:49	10

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	100	mg/L			10/25/23 22:13	50
Fluoride	0.52		0.40	mg/L			10/14/23 21:48	1
Sulfate	2400	D2	100	mg/L			10/25/23 22:13	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:18	1
Lithium	0.16	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:15	1
Boron	0.35		0.050	mg/L		10/16/23 08:14	10/18/23 21:18	1
Calcium	780		2.0	mg/L		10/16/23 08:14	10/18/23 21:18	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:18	1
Magnesium	95		2.0	mg/L		10/16/23 08:14	10/18/23 21:18	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:18	1
Potassium	11		0.50	mg/L		10/16/23 08:14	10/18/23 21:18	1
Sodium	1500		2.5	mg/L		10/16/23 08:14	10/19/23 14:40	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Arsenic	0.0060		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Barium	0.015		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Chromium	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:51	10
Cobalt	0.0088		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Molybdenum	0.015	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:51	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:51	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:05	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:13	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:43	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/17/23 17:43	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:43	1
Total Dissolved Solids (SM 2540C)	7300		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:13	1
Temperature (SM 4500 H+ B)	12.7	H5 T5	0.1	Degrees C			10/18/23 14:13	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.73		0.50	mg/L			10/30/23 19:51	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.74		0.50	mg/L			10/30/23 19:51	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.73		0.50	mg/L			10/30/23 19:51	1

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:21	1
Manganese	3.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:21	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:53	10
Cobalt	9.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:53	10

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	100	mg/L			10/25/23 22:50	50
Fluoride	1.1		0.40	mg/L			10/14/23 22:25	1
Sulfate	2200	D2	100	mg/L			10/25/23 22:50	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:24	1
Lithium	0.41	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:19	1
Boron	0.59		0.050	mg/L		10/16/23 08:14	10/18/23 21:24	1
Calcium	770		2.0	mg/L		10/16/23 08:14	10/18/23 21:24	1
Iron	0.23		0.10	mg/L		10/16/23 08:14	10/18/23 21:24	1
Magnesium	160		2.0	mg/L		10/16/23 08:14	10/18/23 21:24	1
Manganese	0.053		0.010	mg/L		10/16/23 08:14	10/18/23 21:24	1
Potassium	6.0		0.50	mg/L		10/16/23 08:14	10/18/23 21:24	1
Sodium	2000		2.5	mg/L		10/16/23 08:14	10/19/23 14:43	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Arsenic	0.0063		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Barium	0.016		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Chromium	0.048		0.010	mg/L		10/16/23 09:20	10/18/23 15:55	10
Cobalt	0.0065		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0080	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:55	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:55	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:06	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:15	1
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/17/23 17:50	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/17/23 17:50	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:50	1
Total Dissolved Solids (SM 2540C)	8600		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:14	1
Temperature (SM 4500 H+ B)	11.5	H5 T5	0.1	Degrees C			10/18/23 14:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:13	1

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 21:27	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 21:27	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		5.0	ug/L		10/16/23 09:20	10/18/23 15:57	10
Cobalt	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 15:57	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	100	mg/L			10/25/23 23:27	50
Fluoride	0.52		0.40	mg/L			10/14/23 23:01	1
Sulfate	2600	D2	100	mg/L			10/25/23 23:27	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 21:30	1
Lithium	0.37	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:23	1
Boron	0.42		0.050	mg/L		10/16/23 08:14	10/18/23 21:30	1
Calcium	720		2.0	mg/L		10/16/23 08:14	10/18/23 21:30	1
Iron	0.37		0.10	mg/L		10/16/23 08:14	10/18/23 21:30	1
Magnesium	110		2.0	mg/L		10/16/23 08:14	10/18/23 21:30	1
Manganese	2.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:30	1
Potassium	6.0		0.50	mg/L		10/16/23 08:14	10/18/23 21:30	1
Sodium	1900		2.5	mg/L		10/16/23 08:14	10/19/23 14:46	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Arsenic	0.0059		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Barium	0.0095		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Cadmium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Chromium	0.016		0.010	mg/L		10/16/23 09:20	10/18/23 15:59	10
Cobalt	0.0092		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Lead	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Molybdenum	0.0054	T5	0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Selenium	ND		0.0050	mg/L		10/16/23 09:20	10/18/23 15:59	10
Thallium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:59	10

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:46	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:08	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:17	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 17:56	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 17:56	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 17:56	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:16	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:16	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.84		0.50	mg/L			10/30/23 20:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.83		0.50	mg/L			10/30/23 20:29	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.84		0.50	mg/L			10/30/23 20:29	1

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26		0.10	mg/L		10/16/23 08:14	10/18/23 21:32	1
Manganese	2.9		0.010	mg/L		10/16/23 08:14	10/18/23 21:32	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		5.0	ug/L		10/16/23 09:20	10/18/23 16:01	10
Cobalt	9.3		5.0	ug/L		10/16/23 09:20	10/18/23 16:01	10

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	100	mg/L			10/26/23 00:59	50
Fluoride	0.62		0.40	mg/L			10/14/23 23:38	1
Sulfate	2800	D2	100	mg/L			10/26/23 00:59	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:36	1
Lithium	0.24	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:27	1
Boron	2.5		0.050	mg/L		10/16/23 08:20	10/18/23 19:36	1
Calcium	700		2.0	mg/L		10/16/23 08:20	10/18/23 19:36	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:36	1
Magnesium	140		2.0	mg/L		10/16/23 08:20	10/18/23 19:36	1
Manganese	2.2		0.010	mg/L		10/16/23 08:20	10/18/23 19:36	1
Potassium	6.8		0.50	mg/L		10/16/23 08:20	10/18/23 19:36	1
Sodium	1700		2.5	mg/L		10/16/23 08:20	10/19/23 14:09	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Arsenic	0.0013		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Barium	0.010		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Cadmium	0.00042		0.00010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Chromium	0.0019		0.0010	mg/L		10/16/23 09:27	10/17/23 11:11	1
Cobalt	0.054		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.020	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:11	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:11	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:48	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:09	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:43	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:03	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:03	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:03	1
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/18/23 14:17	1
Temperature (SM 4500 H+ B)	10.8	H5 T5	0.1	Degrees C			10/18/23 14:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			10/30/23 20:51	1

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:39	1
Manganese	2.0		0.010	mg/L		10/16/23 08:20	10/18/23 19:39	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.2		0.50	ug/L		10/16/23 09:27	10/17/23 11:13	1
Cobalt	53		0.50	ug/L		10/16/23 09:27	10/17/23 11:13	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	100	mg/L			10/26/23 01:36	50
Fluoride	0.54		0.40	mg/L			10/15/23 00:15	1
Sulfate	2600	D2	100	mg/L			10/26/23 01:36	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:42	1
Lithium	0.42	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:31	1
Boron	0.41		0.050	mg/L		10/16/23 08:20	10/18/23 19:42	1
Calcium	810		2.0	mg/L		10/16/23 08:20	10/18/23 19:42	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:42	1
Magnesium	130		2.0	mg/L		10/16/23 08:20	10/18/23 19:42	1
Manganese	0.22		0.010	mg/L		10/16/23 08:20	10/18/23 19:42	1
Potassium	8.0		0.50	mg/L		10/16/23 08:20	10/18/23 19:42	1
Sodium	2100		2.5	mg/L		10/16/23 08:20	10/19/23 14:12	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Arsenic	0.00089		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Barium	0.0075		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Chromium	0.0092		0.0010	mg/L		10/16/23 09:27	10/17/23 11:15	1
Cobalt	0.0016		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Molybdenum	0.0015	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Selenium	0.0025		0.00050	mg/L		10/16/23 09:27	10/17/23 11:15	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:15	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:50	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:11	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:45	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:10	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:10	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:10	1
Total Dissolved Solids (SM 2540C)	9100		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/18/23 14:18	1
Temperature (SM 4500 H+ B)	12.0	H5 T5	0.1	Degrees C			10/18/23 14:18	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			10/30/23 21:47	1

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:45	1
Manganese	0.21		0.010	mg/L		10/16/23 08:20	10/18/23 19:45	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.78		0.50	ug/L		10/16/23 09:27	10/17/23 11:17	1
Cobalt	1.4		0.50	ug/L		10/16/23 09:27	10/17/23 11:17	1

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	40	mg/L			10/24/23 23:19	20
Fluoride	1.1		0.40	mg/L			10/15/23 01:47	1
Sulfate	3200	D2	100	mg/L			10/26/23 02:13	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:48	1
Lithium	0.35	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:48	1
Boron	0.45		0.050	mg/L		10/16/23 08:20	10/18/23 19:48	1
Calcium	460		2.0	mg/L		10/16/23 08:20	10/18/23 19:48	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:48	1
Magnesium	90		2.0	mg/L		10/16/23 08:20	10/18/23 19:48	1
Manganese	0.46		0.010	mg/L		10/16/23 08:20	10/18/23 19:48	1
Potassium	6.7		0.50	mg/L		10/16/23 08:20	10/18/23 19:48	1
Sodium	1800		2.5	mg/L		10/16/23 08:20	10/19/23 14:15	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Arsenic	0.0011		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Barium	0.0070		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Chromium	0.016		0.0010	mg/L		10/16/23 09:27	10/17/23 11:19	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	0.0088	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Selenium	0.16		0.00050	mg/L		10/16/23 09:27	10/17/23 11:19	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:19	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:52	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:12	1
Nitrate Nitrite as N (EPA 353.2)	2.9		0.10	mg/L			10/19/23 20:47	1
Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:17	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	170		6.0	mg/L			10/17/23 18:17	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:17	1
Total Dissolved Solids (SM 2540C)	7200		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:19	1
Temperature (SM 4500 H+ B)	12.2	H5 T5	0.1	Degrees C			10/18/23 14:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.86		0.50	mg/L			10/30/23 22:08	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.84		0.50	mg/L			10/30/23 22:08	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.86		0.50	mg/L			10/30/23 22:08	1

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:56	1
Manganese	0.45		0.010	mg/L		10/16/23 08:20	10/18/23 19:56	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.99		0.50	ug/L		10/16/23 09:27	10/17/23 11:21	1
Cobalt	ND		0.50	ug/L		10/16/23 09:27	10/17/23 11:21	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1600	D2	40	mg/L			10/25/23 02:42	20
Fluoride	ND		0.40	mg/L			10/16/23 22:46	1
Sulfate	650	D2	40	mg/L			10/25/23 02:42	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:33	1
Lithium	0.056	T5	0.020	mg/L		10/30/23 15:17	10/31/23 16:52	1
Boron	0.18		0.050	mg/L		10/16/23 08:20	10/18/23 19:33	1
Calcium	350	M3	2.0	mg/L		10/16/23 08:20	10/18/23 19:33	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Arsenic	0.0046		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Barium	0.032		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:09	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Molybdenum	0.0016	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:09	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:09	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:27	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3700		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:24	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:24	1

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	100	mg/L			10/26/23 02:49	50
Fluoride	0.61		0.40	mg/L			10/15/23 02:24	1
Sulfate	2800	D2	100	mg/L			10/26/23 02:49	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 19:59	1
Lithium	0.25	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:04	1
Boron	2.6		0.050	mg/L		10/16/23 08:20	10/18/23 19:59	1
Calcium	720		2.0	mg/L		10/16/23 08:20	10/18/23 19:59	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:59	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	150		2.0	mg/L		10/16/23 08:20	10/18/23 19:59	1
Manganese	2.2		0.010	mg/L		10/16/23 08:20	10/18/23 19:59	1
Potassium	6.7		0.50	mg/L		10/16/23 08:20	10/18/23 19:59	1
Sodium	1700		2.5	mg/L		10/16/23 08:20	10/19/23 14:18	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Arsenic	0.0012		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Barium	0.010		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Cadmium	0.00047		0.00010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Chromium	0.0025		0.0010	mg/L		10/16/23 09:27	10/17/23 11:23	1
Cobalt	0.053		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Lead	0.00050		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Molybdenum	0.020	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:23	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:23	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 16:00	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 12:14	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:49	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:24	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			10/17/23 18:24	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:24	1
Total Dissolved Solids (SM 2540C)	7900		100	mg/L			10/17/23 09:35	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/18/23 14:20	1
Temperature (SM 4500 H+ B)	10.7	H5 T5	0.1	Degrees C			10/18/23 14:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			10/30/23 22:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 20:02	1
Manganese	2.1		0.010	mg/L		10/16/23 08:20	10/18/23 20:02	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.0		0.50	ug/L		10/16/23 09:27	10/17/23 11:25	1
Cobalt	51		0.50	ug/L		10/16/23 09:27	10/17/23 11:25	1

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Date Collected: 10/11/23 16:10

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	78		2.0	mg/L			10/24/23 23:56	1
Chloride	1500	D2	400	mg/L			11/29/23 20:01	200
Fluoride	ND		0.40	mg/L			10/15/23 03:01	1
Fluoride	ND		0.80	mg/L			11/29/23 19:43	2
Sulfate	33		2.0	mg/L			10/24/23 23:56	1
Sulfate	ND		4.0	mg/L			11/29/23 19:43	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 20:05	1
Lithium	0.055	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:08	1
Boron	0.19		0.050	mg/L		10/16/23 08:20	10/18/23 20:05	1
Calcium	350		2.0	mg/L		10/16/23 08:20	10/18/23 20:05	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Arsenic	0.0043		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Barium	0.033		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 11:27	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Molybdenum	0.0016	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 11:27	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 11:27	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 16:02	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3800		100	mg/L			10/16/23 14:41	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/18/23 14:21	1
Temperature (SM 4500 H+ B)	11.3	H5 T5	0.1	Degrees C			10/18/23 14:21	1

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Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	40	mg/L			10/25/23 00:15	20
Fluoride	4.3		0.40	mg/L			10/15/23 03:37	1
Sulfate	3100	D2	100	mg/L			10/26/23 04:58	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:20	10/18/23 20:07	1
Lithium	0.20	T5	0.020	mg/L		10/30/23 15:17	10/31/23 17:12	1
Boron	4.7		0.050	mg/L		10/16/23 08:20	10/18/23 20:07	1
Calcium	560		2.0	mg/L		10/16/23 08:20	10/18/23 20:07	1
Iron	14		0.10	mg/L		10/16/23 08:20	10/18/23 20:07	1
Magnesium	310		2.0	mg/L		10/16/23 08:20	10/18/23 20:07	1
Manganese	0.22		0.010	mg/L		10/16/23 08:20	10/18/23 20:07	1
Potassium	32		0.50	mg/L		10/16/23 08:20	10/18/23 20:07	1
Sodium	1400		2.5	mg/L		10/16/23 08:20	10/19/23 14:20	5

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0025		0.0010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Arsenic	0.021		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Barium	0.55		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Cadmium	0.00029		0.00010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Chromium	0.015		0.0010	mg/L		10/16/23 09:27	10/17/23 11:54	1
Cobalt	0.0044		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Lead	0.0095		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Molybdenum	0.029	T5	0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Selenium	0.0095		0.00050	mg/L		10/16/23 09:27	10/17/23 11:54	1
Thallium	0.00014		0.00010	mg/L		10/16/23 09:27	10/17/23 11:54	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.089		0.050	mg/L			10/30/23 11:42	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/19/23 20:51	1
Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			10/17/23 18:30	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			10/17/23 18:30	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/17/23 18:30	1
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			10/18/23 10:06	1
pH (SM 4500 H+ B)	8.3	H5	1.7	SU			10/18/23 14:27	1
Temperature (SM 4500 H+ B)	12.5	H5 T5	0.1	Degrees C			10/18/23 14:27	1
Total Organic Carbon (SM 5310B)	1.8	D1	1.0	mg/L			10/27/23 03:22	2
Total Organic Carbon - Duplicates (SM 5310B)	1.9	D1	1.0	mg/L			10/27/23 03:22	2
Total Organic Carbon - Quad (SM 5310B)	1.8	D1	1.0	mg/L			10/27/23 03:22	2

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.9		0.50	mg/L			10/30/23 22:47	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.0		0.50	mg/L			10/30/23 22:47	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.9		0.50	mg/L			10/30/23 22:47	1

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 20:10	1
Manganese	0.045		0.010	mg/L		10/16/23 08:20	10/18/23 20:10	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		0.50	ug/L		10/16/23 09:27	10/17/23 11:56	1
Cobalt	ND		0.50	ug/L		10/16/23 09:27	10/17/23 11:56	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-309476/2
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/16/23 20:26	1
Fluoride	ND		0.40	mg/L			10/16/23 20:26	1
Sulfate	ND		2.0	mg/L			10/16/23 20:26	1

Lab Sample ID: LCS 550-309476/5
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	18.9		mg/L		94	90 - 110
Fluoride	4.00	3.96		mg/L		99	90 - 110
Sulfate	20.0	18.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-309476/6
Matrix: Water
Analysis Batch: 309476

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	18.9		mg/L		94	90 - 110	0	20
Fluoride	4.00	4.00		mg/L		100	90 - 110	1	20
Sulfate	20.0	18.9		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309476

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.05		mg/L					

Lab Sample ID: MB 550-309580/1042
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/18/23 03:09	1
Fluoride	ND		0.40	mg/L			10/18/23 03:09	1
Sulfate	ND		2.0	mg/L			10/18/23 03:09	1

Lab Sample ID: LCS 550-309580/64
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.35		mg/L		109	90 - 110
Sulfate	20.0	20.7		mg/L		104	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-309580/65
Matrix: Water
Analysis Batch: 309580

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.34		mg/L		108	90 - 110	0	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	0	20

Lab Sample ID: MB 550-309721/2
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/14/23 12:54	1
Fluoride	ND		0.40	mg/L			10/14/23 12:54	1
Sulfate	ND		2.0	mg/L			10/14/23 12:54	1

Lab Sample ID: LCS 550-309721/5
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.24		mg/L		106	90 - 110
Sulfate	20.0	20.5		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-309721/6
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.26		mg/L		106	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-209145-A-2 MS
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	270	E2 M3	20.0	96.9	M3	mg/L		-888	80 - 120
Fluoride	ND		4.00	4.29		mg/L		101	80 - 120
Sulfate	360	E2 M3	20.0	358	E2 M3	mg/L		3	80 - 120

Lab Sample ID: 550-209145-A-2 MSD
Matrix: Water
Analysis Batch: 309721

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	270	E2 M3	20.0	93.5	M3	mg/L		-905	80 - 120	4	20
Fluoride	ND		4.00	4.42		mg/L		104	80 - 120	3	20
Sulfate	360	E2 M3	20.0	358	E2 M3	mg/L		2	80 - 120	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-309841/2
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/21/23 14:43	1
Fluoride	ND		0.40	mg/L			10/21/23 14:43	1
Sulfate	ND		2.0	mg/L			10/21/23 14:43	1

Lab Sample ID: LCS 550-309841/5
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		101	90 - 110
Fluoride	4.00	4.22		mg/L		105	90 - 110
Sulfate	20.0	20.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309841/6
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	4.21		mg/L		105	90 - 110	0	20
Sulfate	20.0	20.0		mg/L		100	90 - 110	0	20

Lab Sample ID: MB 550-309930/2
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/24/23 12:02	1
Fluoride	ND		0.40	mg/L			10/24/23 12:02	1
Sulfate	ND		2.0	mg/L			10/24/23 12:02	1

Lab Sample ID: LCS 550-309930/5
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-309930/6
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.19		mg/L		105	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209520-E-1 MS
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	96	M3	20.0	109	E2 M3	mg/L		67	80 - 120
Fluoride	1.1		4.00	5.07		mg/L		98	80 - 120
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12	80 - 120

Lab Sample ID: 550-209520-E-1 MSD
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	96	M3	20.0	110	E2 M3	mg/L		70	80 - 120	1	20
Fluoride	1.1		4.00	4.78		mg/L		91	80 - 120	6	20
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12	80 - 120	0	20

Lab Sample ID: MB 550-309932/40
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/25/23 01:47	1
Fluoride	ND		0.40	mg/L			10/25/23 01:47	1
Sulfate	ND		2.0	mg/L			10/25/23 01:47	1

Lab Sample ID: LCS 550-309932/41
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.26		mg/L		106	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-309932/42
Matrix: Water
Analysis Batch: 309932

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.23		mg/L		106	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: MB 550-310012/1
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/25/23 13:22	1
Fluoride	ND		0.40	mg/L			10/25/23 13:22	1
Sulfate	ND		2.0	mg/L			10/25/23 13:22	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-310012/6
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.7		mg/L		103	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-310012/7
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.34		mg/L		108	90 - 110	0	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-208988-F-8 MS ^20
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	310		400	677		mg/L		91	80 - 120
Fluoride	ND		80.0	83.8		mg/L		102	80 - 120
Sulfate	760	M1 R4 M2	400	1030	M2	mg/L		66	80 - 120

Lab Sample ID: 550-208988-F-8 MSD ^20
Matrix: Water
Analysis Batch: 310012

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	310		400	790		mg/L		119	80 - 120	15	20
Fluoride	ND		80.0	82.0		mg/L		100	80 - 120	2	20
Sulfate	760	M1 R4 M2	400	1310	M1 R4	mg/L		136	80 - 120	24	20

Lab Sample ID: MB 550-311927/2
Matrix: Water
Analysis Batch: 311927

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/29/23 13:53	1
Fluoride	ND		0.40	mg/L			11/29/23 13:53	1
Sulfate	ND		2.0	mg/L			11/29/23 13:53	1

Lab Sample ID: LCS 550-311927/5
Matrix: Water
Analysis Batch: 311927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.1		mg/L		106	90 - 110
Fluoride	4.00	4.24		mg/L		106	90 - 110
Sulfate	20.0	21.3		mg/L		107	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-311927/6
Matrix: Water
Analysis Batch: 311927

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.29		mg/L		107	90 - 110	1	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-211038-A-7 MS
Matrix: Water
Analysis Batch: 311927

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	5.2		20.0	25.8		mg/L		103	80 - 120
Fluoride	0.41		4.00	4.49		mg/L		102	80 - 120
Sulfate	490	E2 M3	20.0	490	E2 M3	mg/L		-21	80 - 120

Lab Sample ID: 550-211038-A-7 MSD
Matrix: Water
Analysis Batch: 311927

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5.2		20.0	26.2		mg/L		105	80 - 120	2	20
Fluoride	0.41		4.00	4.57		mg/L		104	80 - 120	2	20
Sulfate	490	E2 M3	20.0	490	E2 M3	mg/L		-20	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309404/1-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309404

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Boron	ND		0.050	mg/L		10/16/23 08:14	10/18/23 20:19	1
Calcium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Iron	ND		0.10	mg/L		10/16/23 08:14	10/18/23 20:19	1
Magnesium	ND		2.0	mg/L		10/16/23 08:14	10/18/23 20:19	1
Manganese	ND		0.010	mg/L		10/16/23 08:14	10/18/23 20:19	1
Potassium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1
Sodium	ND		0.50	mg/L		10/16/23 08:14	10/18/23 20:19	1

Lab Sample ID: LCS 550-309404/2-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.985		mg/L		99	85 - 115
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	20.9		mg/L		99	85 - 115
Iron	1.00	0.919		mg/L		92	85 - 115
Magnesium	21.0	20.4		mg/L		97	85 - 115
Manganese	1.00	0.954		mg/L		95	85 - 115
Potassium	20.0	20.0		mg/L		100	85 - 115

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-309404/2-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	20.0	19.7		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-309404/3-A
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	1.00		mg/L		100	85 - 115	2	20
Boron	1.00	1.02		mg/L		102	85 - 115	1	20
Calcium	21.0	21.2		mg/L		101	85 - 115	2	20
Iron	1.00	0.934		mg/L		93	85 - 115	2	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	2	20
Manganese	1.00	0.964		mg/L		96	85 - 115	1	20
Potassium	20.0	20.3		mg/L		101	85 - 115	2	20
Sodium	20.0	20.0		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-209145-I-2-A MS
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.00		mg/L		100	70 - 130
Boron	0.21		1.00	1.24		mg/L		103	70 - 130
Calcium	130		21.0	151	M3	mg/L		78	70 - 130
Iron	0.13		1.00	1.09		mg/L		97	70 - 130
Magnesium	70		21.0	88.0		mg/L		88	70 - 130
Manganese	0.67		1.00	1.59		mg/L		91	70 - 130
Potassium	4.9		20.0	25.9		mg/L		105	70 - 130
Sodium	290	M3	20.0	298	M3	mg/L		60	70 - 130

Lab Sample ID: 550-209145-I-2-B MSD
Matrix: Water
Analysis Batch: 309621

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309404

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130	2	20
Boron	0.21		1.00	1.25		mg/L		104	70 - 130	1	20
Calcium	130		21.0	153	M3	mg/L		87	70 - 130	1	20
Iron	0.13		1.00	1.11		mg/L		99	70 - 130	2	20
Magnesium	70		21.0	89.1		mg/L		93	70 - 130	1	20
Manganese	0.67		1.00	1.61		mg/L		93	70 - 130	1	20
Potassium	4.9		20.0	26.3		mg/L		107	70 - 130	2	20
Sodium	290	M3	20.0	302	M3	mg/L		82	70 - 130	1	20

Lab Sample ID: MB 550-309405/1-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309405

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00176	B1	0.0010	mg/L		10/16/23 08:20	10/18/23 19:19	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-309405/1-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309405

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		10/16/23 08:20	10/18/23 19:19	1
Calcium	ND		2.0	mg/L		10/16/23 08:20	10/18/23 19:19	1
Iron	ND		0.10	mg/L		10/16/23 08:20	10/18/23 19:19	1
Magnesium	ND		2.0	mg/L		10/16/23 08:20	10/18/23 19:19	1
Manganese	ND		0.010	mg/L		10/16/23 08:20	10/18/23 19:19	1
Potassium	ND		0.50	mg/L		10/16/23 08:20	10/18/23 19:19	1
Sodium	ND		0.50	mg/L		10/16/23 08:20	10/18/23 19:19	1

Lab Sample ID: LCS 550-309405/2-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.978		mg/L		98	85 - 115
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	20.8		mg/L		99	85 - 115
Iron	1.00	0.904		mg/L		90	85 - 115
Magnesium	21.0	20.3		mg/L		97	85 - 115
Manganese	1.00	0.951		mg/L		95	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Sodium	20.0	19.4		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-309405/3-A
Matrix: Water
Analysis Batch: 309620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Beryllium	1.00	0.964		mg/L		96	85 - 115	2	20
Boron	1.00	0.988		mg/L		99	85 - 115	2	20
Calcium	21.0	20.4		mg/L		97	85 - 115	2	20
Iron	1.00	0.891		mg/L		89	85 - 115	1	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	2	20
Manganese	1.00	0.937		mg/L		94	85 - 115	1	20
Potassium	20.0	19.6		mg/L		98	85 - 115	1	20
Sodium	20.0	19.0		mg/L		95	85 - 115	2	20

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309620

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130
Boron	0.18		1.00	1.25		mg/L		107	70 - 130
Calcium	350	M3	21.0	363	M3	mg/L		47	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309620

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309405

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Beryllium	ND		1.00	1.02		mg/L		102	70 - 130	1	20
Boron	0.18		1.00	1.24		mg/L		106	70 - 130	1	20
Calcium	350	M3	21.0	361	M3	mg/L		39	70 - 130	0	20

Lab Sample ID: MB 280-631557/1-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631557

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.020	mg/L		10/30/23 15:17	10/31/23 15:11	1

Lab Sample ID: LCS 280-631557/2-A
Matrix: Water
Analysis Batch: 631988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Lithium	1.00	0.979		mg/L		98	90 - 112

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	
Lithium	0.056	T5	1.00	1.06		mg/L		100	70 - 130	

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 631988

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 631557

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Lithium	0.056	T5	1.00	1.06		mg/L		100	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309417/1-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309417

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Arsenic	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Barium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Chromium	ND		0.0010	mg/L		10/16/23 09:20	10/18/23 15:00	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Lead	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Molybdenum	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Selenium	ND		0.00050	mg/L		10/16/23 09:20	10/18/23 15:00	1
Thallium	ND		0.00010	mg/L		10/16/23 09:20	10/18/23 15:00	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309417/2-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Antimony	0.100	0.0978		mg/L		98	85 - 115
Arsenic	0.100	0.0964		mg/L		96	85 - 115
Barium	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.0986		mg/L		99	85 - 115
Chromium	0.100	0.0975		mg/L		98	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.0994		mg/L		99	85 - 115
Molybdenum	0.100	0.0970		mg/L		97	85 - 115
Selenium	0.100	0.0930		mg/L		93	85 - 115
Thallium	0.100	0.0944		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-309417/3-A
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	0.100	0.0973		mg/L		97	85 - 115	1	20
Arsenic	0.100	0.0967		mg/L		97	85 - 115	0	20
Barium	0.100	0.111		mg/L		111	85 - 115	0	20
Cadmium	0.100	0.0980		mg/L		98	85 - 115	1	20
Chromium	0.100	0.0994		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	1	20
Lead	0.100	0.0980		mg/L		98	85 - 115	1	20
Molybdenum	0.100	0.0959		mg/L		96	85 - 115	1	20
Selenium	0.100	0.0938		mg/L		94	85 - 115	1	20
Thallium	0.100	0.0959		mg/L		96	85 - 115	2	20

Lab Sample ID: 550-209145-H-2-A MS ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Antimony	ND		0.100	0.0992		mg/L		99	70 - 130
Arsenic	0.0093		0.100	0.109		mg/L		100	70 - 130
Barium	0.028		0.100	0.136		mg/L		108	70 - 130
Cadmium	ND		0.100	0.0962		mg/L		96	70 - 130
Chromium	ND		0.100	0.0974		mg/L		97	70 - 130
Cobalt	ND		0.100	0.0974		mg/L		97	70 - 130
Lead	ND		0.100	0.0953		mg/L		95	70 - 130
Molybdenum	ND		0.100	0.102		mg/L		98	70 - 130
Selenium	ND		0.100	0.104		mg/L		104	70 - 130
Thallium	ND		0.100	0.0942		mg/L		94	70 - 130

Lab Sample ID: 550-209145-H-2-B MSD ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		0.100	0.0998		mg/L		100	70 - 130	1	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209145-H-2-B MSD ^10
Matrix: Water
Analysis Batch: 309594

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309417

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Arsenic	0.0093		0.100	0.110		mg/L		101	70 - 130	1	20
Barium	0.028		0.100	0.141		mg/L		113	70 - 130	4	20
Cadmium	ND		0.100	0.0975		mg/L		97	70 - 130	1	20
Chromium	ND		0.100	0.0982		mg/L		98	70 - 130	1	20
Cobalt	ND		0.100	0.101		mg/L		101	70 - 130	3	20
Lead	ND		0.100	0.0924		mg/L		92	70 - 130	3	20
Molybdenum	ND		0.100	0.103		mg/L		100	70 - 130	1	20
Selenium	ND		0.100	0.101		mg/L		101	70 - 130	4	20
Thallium	ND		0.100	0.0922		mg/L		92	70 - 130	2	20

Lab Sample ID: MB 550-309418/1-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309418

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Arsenic	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Barium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Cadmium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Chromium	ND		0.0010	mg/L		10/16/23 09:27	10/17/23 10:55	1
Cobalt	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Lead	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Molybdenum	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Selenium	ND		0.00050	mg/L		10/16/23 09:27	10/17/23 10:55	1
Thallium	ND		0.00010	mg/L		10/16/23 09:27	10/17/23 10:55	1

Lab Sample ID: LCS 550-309418/2-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Added	Result				Qualifier
Antimony	0.100	0.0975		mg/L		98	85 - 115
Arsenic	0.100	0.0947		mg/L		95	85 - 115
Barium	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.0982		mg/L		98	85 - 115
Chromium	0.100	0.0927		mg/L		93	85 - 115
Cobalt	0.100	0.0978		mg/L		98	85 - 115
Lead	0.100	0.105		mg/L		105	85 - 115
Molybdenum	0.100	0.0967		mg/L		97	85 - 115
Selenium	0.100	0.0916		mg/L		92	85 - 115
Thallium	0.100	0.104		mg/L		104	85 - 115

Lab Sample ID: LCSD 550-309418/3-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
		Added	Result				Qualifier		
Antimony	0.100	0.100		mg/L		100	85 - 115	3	20
Arsenic	0.100	0.0971		mg/L		97	85 - 115	2	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-309418/3-A
Matrix: Water
Analysis Batch: 309504

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Barium	0.100	0.114		mg/L		114	85 - 115	3	20	
Cadmium	0.100	0.101		mg/L		101	85 - 115	3	20	
Chromium	0.100	0.0960		mg/L		96	85 - 115	3	20	
Cobalt	0.100	0.102		mg/L		102	85 - 115	4	20	
Lead	0.100	0.108		mg/L		108	85 - 115	2	20	
Molybdenum	0.100	0.0995		mg/L		100	85 - 115	3	20	
Selenium	0.100	0.0937		mg/L		94	85 - 115	2	20	
Thallium	0.100	0.108		mg/L		108	85 - 115	4	20	

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309504

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Antimony	ND		0.100	0.103		mg/L		103	70 - 130			
Arsenic	0.0046		0.100	0.104		mg/L		99	70 - 130			
Barium	0.032		0.100	0.147		mg/L		115	70 - 130			
Cadmium	ND		0.100	0.0979		mg/L		98	70 - 130			
Chromium	ND		0.100	0.0944		mg/L		94	70 - 130			
Cobalt	ND		0.100	0.0956		mg/L		96	70 - 130			
Lead	ND		0.100	0.0978		mg/L		98	70 - 130			
Molybdenum	0.0016	T5	0.100	0.106		mg/L		105	70 - 130			
Selenium	ND		0.100	0.0962		mg/L		96	70 - 130			
Thallium	ND		0.100	0.0964		mg/L		96	70 - 130			

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309504

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309418

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Antimony	ND		0.100	0.103		mg/L		103	70 - 130	1	20	
Arsenic	0.0046		0.100	0.104		mg/L		99	70 - 130	0	20	
Barium	0.032		0.100	0.148		mg/L		116	70 - 130	1	20	
Cadmium	ND		0.100	0.0969		mg/L		97	70 - 130	1	20	
Chromium	ND		0.100	0.0958		mg/L		95	70 - 130	2	20	
Cobalt	ND		0.100	0.0963		mg/L		96	70 - 130	1	20	
Lead	ND		0.100	0.0965		mg/L		97	70 - 130	1	20	
Molybdenum	0.0016	T5	0.100	0.106		mg/L		105	70 - 130	0	20	
Selenium	ND		0.100	0.0959		mg/L		96	70 - 130	0	20	
Thallium	ND		0.100	0.0987		mg/L		99	70 - 130	2	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-309427/1-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309427

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		10/16/23 11:39	10/16/23 15:14	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 550-309427/2-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00445		mg/L		89	85 - 115

Lab Sample ID: LCSD 550-309427/3-A
Matrix: Water
Analysis Batch: 309448

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00500	0.00452		mg/L		90	85 - 115	2	20

Lab Sample ID: 550-209146-17 MS
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W309-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00500	0.00571		mg/L		114	70 - 130

Lab Sample ID: 550-209146-19 MS
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	ND		0.00500	0.00579		mg/L		116	70 - 130

Lab Sample ID: 550-209146-19 MSD
Matrix: Water
Analysis Batch: 309448

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA
Prep Batch: 309427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	ND		0.00500	0.00545		mg/L		109	70 - 130	6	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310263/21
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 10:54	1

Lab Sample ID: MB 550-310263/60
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 11:53	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-310263/22
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.932		mg/L		93	90 - 110

Lab Sample ID: LCS 550-310263/61
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.997		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-310263/23
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.957		mg/L		96	90 - 110	3	20

Lab Sample ID: LCSD 550-310263/62
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-209146-1 MS
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: CH-CCR-M52A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		1.00	0.965		mg/L		97	90 - 110

Lab Sample ID: 550-209146-1 MSD
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: CH-CCR-M52A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		1.00	1.01		mg/L		101	90 - 110	4	20

Lab Sample ID: 550-209520-F-1 MS
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Matrix Spike
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.3		1.00	2.27		mg/L		100	90 - 110

Lab Sample ID: 550-209520-F-1 MSD
 Matrix: Water
 Analysis Batch: 310263

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.3		1.00	2.25		mg/L		98	90 - 110	1	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-630661/104
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/19/23 20:33	1

Lab Sample ID: MB 280-630661/60
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/19/23 19:05	1

Lab Sample ID: LCS 280-630661/59
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.83		mg/L		97	90 - 110

Lab Sample ID: 280-183024-D-2 MS
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	1.7		4.00	5.44		mg/L		94	90 - 110

Lab Sample ID: 280-183024-D-2 MSD
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.7		4.00	5.38		mg/L		92	90 - 110	1	10

Lab Sample ID: 280-183067-H-15 MS
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.13		4.00	3.94		mg/L		95	90 - 110

Lab Sample ID: 280-183067-H-15 MSD
Matrix: Water
Analysis Batch: 630661

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.13		4.00	3.95		mg/L		96	90 - 110	0	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-309527/5
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/17/23 14:54	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/17/23 14:54	1

Lab Sample ID: LCS 550-309527/4
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	246		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309527/13
Matrix: Water
Analysis Batch: 309527

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	240		mg/L		96	90 - 110	2	20

Lab Sample ID: 550-209146-5 DU
Matrix: Water
Analysis Batch: 309527

Client Sample ID: CH-CCR-MW79A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	120		116		mg/L		0.5	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	120		116		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309445/1
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/16/23 14:41	1

Lab Sample ID: LCS 550-309445/2
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	992		mg/L		99	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-309445/3
Matrix: Water
Analysis Batch: 309445

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	972		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-209146-19 DU
Matrix: Water
Analysis Batch: 309445

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3700		3580		mg/L		3	10

Lab Sample ID: MB 550-309470/1
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/17/23 09:35	1

Lab Sample ID: LCS 550-309470/2
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-309470/3
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	988		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-209104-B-5 DU
Matrix: Water
Analysis Batch: 309470

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4000		3960		mg/L		2	10

Lab Sample ID: MB 550-309541/1
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/18/23 10:06	1

Lab Sample ID: LCS 550-309541/2
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCSD 550-309541/3
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	1	10

Lab Sample ID: 550-209096-A-1 DU
Matrix: Water
Analysis Batch: 309541

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300	R8	1480	R8	mg/L		13	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-309589/13
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/25
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/37
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-309589/49
Matrix: Water
Analysis Batch: 309589

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: 550-209146-19 DU
Matrix: Water
Analysis Batch: 309589

Client Sample ID: CH-CCR-W317-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.7	H5	SU		0.1	5
Temperature	11.3	H5 T5	11.7	H5	Degrees C		3	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-310115/5
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			10/26/23 20:01	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			10/26/23 20:01	1
Total Organic Carbon - Quad	ND		0.50	mg/L			10/26/23 20:01	1

Lab Sample ID: LCS 550-310115/6
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Duplicates	20.0	21.1		mg/L		106	90 - 110
Total Organic Carbon - Quad	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-310115/7
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	21.0		mg/L		105	90 - 110	1	20
Total Organic Carbon - Quad	20.0	21.0		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-209321-B-1 MSD
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Duplicates	9.3		20.0	28.3		mg/L		95	90 - 110	4	20
Total Organic Carbon - Quad	9.3		20.0	28.3		mg/L		95	90 - 110	4	20

Lab Sample ID: 550-209321-E-1 MS
Matrix: Water
Analysis Batch: 310115

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Duplicates	9.3		20.0	29.4		mg/L		101	90 - 110
Total Organic Carbon - Quad	9.3		20.0	29.4		mg/L		101	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310248/5
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			10/30/23 15:16	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			10/30/23 15:16	1

Lab Sample ID: LCS 550-310248/8
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.3		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310248/9
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	1	20

Lab Sample ID: 550-209145-A-3 MSD
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.8	M1	mg/L		113	90 - 110	2	20

Lab Sample ID: 550-209145-C-3 MS
Matrix: Water
Analysis Batch: 310248

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Duplicate	5.2	M1	20.0	27.2		mg/L		110	90 - 110
Dissolved Organic Carbon - Quad	5.2	M1	20.0	27.2		mg/L		110	90 - 110

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 309476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	300.0	
MB 550-309476/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309476/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309476/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	300.0	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	300.0	

Analysis Batch: 309580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309580/1042	Method Blank	Total/NA	Water	300.0	
LCS 550-309580/64	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309580/65	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 309721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	300.0	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	300.0	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	300.0	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	300.0	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	300.0	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	300.0	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	300.0	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	300.0	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	300.0	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-309721/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309721/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309721/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209145-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-209145-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 309841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309841/6	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 309930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-309930/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309930/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309930/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209520-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209520-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 309932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	300.0	
MB 550-309932/40	Method Blank	Total/NA	Water	300.0	
LCS 550-309932/41	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309932/42	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	300.0	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	300.0	

Analysis Batch: 310012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	300.0	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	300.0	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	300.0	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	300.0	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	300.0	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	300.0	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	300.0	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	300.0	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	300.0	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	300.0	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	300.0	
MB 550-310012/1	Method Blank	Total/NA	Water	300.0	
LCS 550-310012/6	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310012/7	Lab Control Sample Dup	Total/NA	Water	300.0	
550-208988-F-8 MS ^20	Matrix Spike	Total/NA	Water	300.0	
550-208988-F-8 MSD ^20	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 311927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	300.0	
MB 550-311927/2	Method Blank	Total/NA	Water	300.0	
LCS 550-311927/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-311927/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-211038-A-7 MS	Matrix Spike	Total/NA	Water	300.0	
550-211038-A-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7	
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.7	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7	
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.7	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7	
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.7	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7	
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.7	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7	
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.7	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309404 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.7	
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209145-I-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-209145-I-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 309405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7	
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.7	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7	
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.7	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7	
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.7	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7	
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.7	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7	
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.7	
MB 550-309405/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309405/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7	

Prep Batch: 309417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.8	
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.8	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.8	
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.8	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.8	
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.8	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.8	
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.8	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.8	
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.8	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.8	
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.8	
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209145-H-2-A MS ^10	Matrix Spike	Total/NA	Water	200.8	
550-209145-H-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 309418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.8	
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309418 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.8	
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.8	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.8	
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.8	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.8	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.8	
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.8	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.8	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.8	
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.8	
MB 550-309418/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309418/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCS 550-309418/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.8	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.8	

Prep Batch: 309427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	245.1	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	245.1	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	245.1	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	245.1	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	245.1	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	245.1	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	245.1	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	245.1	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	245.1	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	245.1	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	245.1	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	245.1	
MB 550-309427/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-309427/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCS 550-309427/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209146-17 MS	CH-CCR-W309-1023	Total/NA	Water	245.1	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	245.1	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	245.1	

Analysis Batch: 309448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	245.1	309427
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	245.1	309427
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	245.1	309427
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	245.1	309427
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	245.1	309427
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	245.1	309427
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	245.1	309427
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	245.1	309427
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	245.1	309427
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	245.1	309427
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	245.1	309427
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	245.1	309427

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 309448 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-309427/1-A	Method Blank	Total/NA	Water	245.1	309427
LCS 550-309427/2-A	Lab Control Sample	Total/NA	Water	245.1	309427
LCSD 550-309427/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	309427
550-209146-17 MS	CH-CCR-W309-1023	Total/NA	Water	245.1	309427
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	245.1	309427
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	245.1	309427

Analysis Batch: 309504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.8 LL	309418
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.8 LL	309418
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.8 LL	309418
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.8 LL	309418
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.8 LL	309418
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.8 LL	309418
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.8 LL	309418
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.8 LL	309418
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.8 LL	309418
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.8 LL	309418
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.8 LL	309418
MB 550-309418/1-A	Method Blank	Total/NA	Water	200.8 LL	309418
LCS 550-309418/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309418
LCSD 550-309418/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309418
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.8 LL	309418

Analysis Batch: 309594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.8 LL	309417
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.8 LL	309417
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.8 LL	309417
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.8 LL	309417
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.8 LL	309417
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.8 LL	309417
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.8 LL	309417
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.8 LL	309417
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.8 LL	309417
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.8 LL	309417
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.8 LL	309417
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.8 LL	309417
MB 550-309417/1-A	Method Blank	Total/NA	Water	200.8 LL	309417
LCS 550-309417/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309417
LCSD 550-309417/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309417
550-209145-H-2-A MS ^10	Matrix Spike	Total/NA	Water	200.8 LL	309417
550-209145-H-2-B MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	309417

Analysis Batch: 309620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-14	CH-CCR-W307R-1023	Dissolved	Water	200.7	309405

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 309620 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-16	CH-CCR-W308-1023	Dissolved	Water	200.7	309405
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-18	CH-CCR-W309-1023	Dissolved	Water	200.7	309405
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-21	CH-CCR-FD03-1023	Dissolved	Water	200.7	309405
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-24	CH-CCR-BAP-1023	Dissolved	Water	200.7	309405
MB 550-309405/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309405
LCS 550-309405/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309405
LCSD 550-309405/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	309405

Analysis Batch: 309621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-2	CH-CCR-M52A-1023	Dissolved	Water	200.7	309404
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-4	CH-CCR-M55A-1023	Dissolved	Water	200.7	309404
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-6	CH-CCR-MW79A-1023	Dissolved	Water	200.7	309404
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-8	CH-CCR-FD02-1023	Dissolved	Water	200.7	309404
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-10	CH-CCR-W302-1023	Dissolved	Water	200.7	309404
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-12	CH-CCR-W304-1023	Dissolved	Water	200.7	309404
MB 550-309404/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309404
LCS 550-309404/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309404
LCSD 550-309404/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-I-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	309404
550-209145-I-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	309404

Analysis Batch: 309664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	309405
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	309405

Analysis Batch: 309669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	309404
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	309404

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QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Metals

Prep Batch: 631557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7	
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7	
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7	

Analysis Batch: 631988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	200.7 Rev 4.4	631557
MB 280-631557/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	631557
LCS 280-631557/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19 MS	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557
550-209146-19 MSD	CH-CCR-W317-1023	Total/NA	Water	200.7 Rev 4.4	631557

General Chemistry

Analysis Batch: 309445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	SM 2540C	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	SM 2540C	
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	SM 2540C	
MB 550-309445/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309445/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309445/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209146-19 DU	CH-CCR-W317-1023	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry

Analysis Batch: 309470

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	SM 2540C	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 2540C	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 2540C	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 2540C	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 2540C	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 2540C	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 2540C	
MB 550-309470/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309470/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309470/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209104-B-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 2320B	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 2320B	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 2320B	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 2320B	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 2320B	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 2320B	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 2320B	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 2320B	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 2320B	
MB 550-309527/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-309527/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-309527/13	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209146-5 DU	CH-CCR-MW79A-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 309541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 2540C	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 2540C	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 2540C	
MB 550-309541/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309541/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309541/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209096-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-19	CH-CCR-W317-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	SM 4500 H+ B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 309589 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-22	CH-CCR-FD04-1023	Total/NA	Water	SM 4500 H+ B	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-309589/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209146-19 DU	CH-CCR-W317-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 310115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	SM 5310B	
MB 550-310115/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-310115/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-310115/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209321-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-209321-E-1 MS	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 310248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Dissolved	Water	SM 5310B	
550-209146-3	CH-CCR-M55A-1023	Dissolved	Water	SM 5310B	
550-209146-5	CH-CCR-MW79A-1023	Dissolved	Water	SM 5310B	
550-209146-7	CH-CCR-FD02-1023	Dissolved	Water	SM 5310B	
550-209146-9	CH-CCR-W302-1023	Dissolved	Water	SM 5310B	
550-209146-11	CH-CCR-W304-1023	Dissolved	Water	SM 5310B	
550-209146-13	CH-CCR-W307R-1023	Dissolved	Water	SM 5310B	
550-209146-15	CH-CCR-W308-1023	Dissolved	Water	SM 5310B	
550-209146-17	CH-CCR-W309-1023	Dissolved	Water	SM 5310B	
550-209146-20	CH-CCR-FD03-1023	Dissolved	Water	SM 5310B	
550-209146-23	CH-CCR-BAP-1023	Dissolved	Water	SM 5310B	
MB 550-310248/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310248/8	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310248/9	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209145-A-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209145-C-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 310263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	350.1	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	350.1	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	350.1	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	350.1	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	350.1	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	350.1	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	350.1	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	350.1	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	350.1	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	350.1	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	350.1	
MB 550-310263/21	Method Blank	Total/NA	Water	350.1	
MB 550-310263/60	Method Blank	Total/NA	Water	350.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 310263 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-310263/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-310263/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310263/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-310263/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209146-1 MS	CH-CCR-M52A-1023	Total/NA	Water	350.1	
550-209146-1 MSD	CH-CCR-M52A-1023	Total/NA	Water	350.1	
550-209520-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-209520-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 630661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209146-1	CH-CCR-M52A-1023	Total/NA	Water	353.2	
550-209146-3	CH-CCR-M55A-1023	Total/NA	Water	353.2	
550-209146-5	CH-CCR-MW79A-1023	Total/NA	Water	353.2	
550-209146-7	CH-CCR-FD02-1023	Total/NA	Water	353.2	
550-209146-9	CH-CCR-W302-1023	Total/NA	Water	353.2	
550-209146-11	CH-CCR-W304-1023	Total/NA	Water	353.2	
550-209146-13	CH-CCR-W307R-1023	Total/NA	Water	353.2	
550-209146-15	CH-CCR-W308-1023	Total/NA	Water	353.2	
550-209146-17	CH-CCR-W309-1023	Total/NA	Water	353.2	
550-209146-20	CH-CCR-FD03-1023	Total/NA	Water	353.2	
550-209146-23	CH-CCR-BAP-1023	Total/NA	Water	353.2	
MB 280-630661/104	Method Blank	Total/NA	Water	353.2	
MB 280-630661/60	Method Blank	Total/NA	Water	353.2	
LCS 280-630661/103	Lab Control Sample	Total/NA	Water	353.2	
LCS 280-630661/59	Lab Control Sample	Total/NA	Water	353.2	
280-183024-D-2 MS	Matrix Spike	Total/NA	Water	353.2	
280-183024-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	
280-183067-H-15 MS	Matrix Spike	Total/NA	Water	353.2	
280-183067-H-15 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-1

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309721	MMH	EET PHX	10/14/23 19:21
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 19:28
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 20:56
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:03
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:33
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:29
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 11:57
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:07
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:06
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 18:55

Client Sample ID: CH-CCR-M52A-1023

Lab Sample ID: 550-209146-2

Date Collected: 10/11/23 16:22

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 20:58
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:35

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 19:39
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 20:04
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:07
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		10	309669	GLW	EET PHX	10/19/23 15:37
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:07
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:43
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:31
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:02

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-3

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:09
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:07
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:12

Client Sample ID: CH-CCR-M55A-1023

Lab Sample ID: 550-209146-4

Date Collected: 10/12/23 10:28

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:10
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:45

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-5

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 20:16
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 21:36
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:13
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:37
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:11
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:47
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:33
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:03
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:11
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:30
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:12
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:29

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW79A-1023

Lab Sample ID: 550-209146-6

Date Collected: 10/13/23 11:03

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:15
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:49

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-7

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 21:48
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 22:13
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:18
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:40
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:15
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:51
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:37
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:05
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:13
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:43
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:13
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 19:51

Client Sample ID: CH-CCR-FD02-1023

Lab Sample ID: 550-209146-8

Date Collected: 10/13/23 15:37

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:21
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:53

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-9

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 22:25
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 22:50
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:24
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:43
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:19
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:55
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:40
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:06
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:15
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:50
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:14
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:13

Client Sample ID: CH-CCR-W302-1023

Lab Sample ID: 550-209146-10

Date Collected: 10/12/23 16:07

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:27
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:57

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 23:01
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/25/23 23:27
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		1	309621	GLW	EET PHX	10/18/23 21:30
Total/NA	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Total/NA	Analysis	200.7 Rev 4.4		5	309669	GLW	EET PHX	10/19/23 14:46
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:23
Total/NA	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Total/NA	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 15:59

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-11

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:46
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:08
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:17
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 17:56
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:16
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:29

Client Sample ID: CH-CCR-W304-1023

Lab Sample ID: 550-209146-12

Date Collected: 10/12/23 14:27

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309404	SGO	EET PHX	10/16/23 08:14
Dissolved	Analysis	200.7		1	309621	GLW	EET PHX	10/18/23 21:32
Dissolved	Prep	200.8			309417	SGO	EET PHX	10/16/23 09:20
Dissolved	Analysis	200.8 LL		10	309594	DSJ	EET PHX	10/18/23 16:01

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-13

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/14/23 23:38
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 00:59
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:36
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:09
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:27
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:11
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:48
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:09
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:43
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:03
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:17
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 20:51

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307R-1023

Lab Sample ID: 550-209146-14

Date Collected: 10/12/23 13:09

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:39
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:13

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-15

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 00:15
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 01:36
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:42
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:12
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:31
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:15
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:50
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:11
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:45
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:10
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:18
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 21:47

Client Sample ID: CH-CCR-W308-1023

Lab Sample ID: 550-209146-16

Date Collected: 10/12/23 11:32

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:45
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:17

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-17

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 01:47
Total/NA	Analysis	300.0		20	309930	MMH	EET PHX	10/24/23 23:19
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 02:13
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:48
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:15
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:48
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:19
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:52
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:12
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:47
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:17
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:19
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:08

Client Sample ID: CH-CCR-W309-1023

Lab Sample ID: 550-209146-18

Date Collected: 10/12/23 09:23

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 19:56
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:21

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		20	309932	MMH	EET PHX	10/25/23 02:42
Total/NA	Analysis	300.0		1	309476	MMH	EET PHX	10/16/23 22:46
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:33
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 16:52
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:09

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-1023

Lab Sample ID: 550-209146-19

Date Collected: 10/11/23 10:16

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 15:27
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:24

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-20

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 02:24
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 02:49
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 19:59
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:18
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:04
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:23
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 16:00
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 12:14
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:49
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:24
Total/NA	Analysis	SM 2540C		1	309470	KMG	EET PHX	10/17/23 09:35 - 10/20/23 10:37 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:20
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:30

Client Sample ID: CH-CCR-FD03-1023

Lab Sample ID: 550-209146-21

Date Collected: 10/12/23 16:20

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 20:02
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:25

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-1023

Lab Sample ID: 550-209146-22

Date Collected: 10/11/23 16:10

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 03:01
Total/NA	Analysis	300.0		1	309930	MMH	EET PHX	10/24/23 23:56
Total/NA	Analysis	300.0		2	311927	MMH	EET PHX	11/29/23 19:43
Total/NA	Analysis	300.0		200	311927	MMH	EET PHX	11/29/23 20:01
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 20:05
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:08
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:27
Total/NA	Prep	245.1			309427	HHL	EET PHX	10/16/23 11:39
Total/NA	Analysis	245.1		1	309448	HHL	EET PHX	10/16/23 16:02
Total/NA	Analysis	SM 2540C		1	309445	KMG	EET PHX	10/16/23 14:41 - 10/19/23 11:38 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:21

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-23

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	309721	MMH	EET PHX	10/15/23 03:37
Total/NA	Analysis	300.0		20	309930	MMH	EET PHX	10/25/23 00:15
Total/NA	Analysis	300.0		50	310012	MMH	EET PHX	10/26/23 04:58
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		1	309620	GLW	EET PHX	10/18/23 20:07
Total/NA	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Total/NA	Analysis	200.7 Rev 4.4		5	309664	GLW	EET PHX	10/19/23 14:20
Total/NA	Prep	200.7			631557	CAF	EET DEN	10/30/23 15:17
Total/NA	Analysis	200.7 Rev 4.4		1	631988	ADL	EET DEN	10/31/23 17:12
Total/NA	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Total/NA	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:54
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 11:42
Total/NA	Analysis	353.2		1	630661	BCR	EET DEN	10/19/23 20:51
Total/NA	Analysis	SM 2320B		1	309527	MAN	EET PHX	10/17/23 18:30
Total/NA	Analysis	SM 2540C		1	309541	KMG	EET PHX	10/18/23 10:06 - 10/20/23 17:59 ¹
Total/NA	Analysis	SM 4500 H+ B		1	309589	MAN	EET PHX	10/18/23 14:27
Dissolved	Analysis	SM 5310B		1	310248	RDC	EET PHX	10/30/23 22:47
Total/NA	Analysis	SM 5310B		2	310115	CXK	EET PHX	10/27/23 03:22

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1023

Lab Sample ID: 550-209146-24

Date Collected: 10/13/23 09:55

Matrix: Water

Date Received: 10/13/23 16:49

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Dissolved	Prep	200.7			309405	SGO	EET PHX	10/16/23 08:20
Dissolved	Analysis	200.7		1	309620	GLW	EET PHX	10/18/23 20:10
Dissolved	Prep	200.8			309418	SGO	EET PHX	10/16/23 09:27
Dissolved	Analysis	200.8 LL		1	309504	DSJ	EET PHX	10/17/23 11:56

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.7 Rev 4.4	200.7	Water	Lithium

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209146-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET DEN
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET DEN
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



4625 E Cotton Center Blvd

Suite 189

Phoenix, AZ 85040

phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA

Other: CCR

209146

TestAmerica Laboratories, Inc.

Client Contact

Arizona Public Service

4801 Cholla Lake Rd

Joseph City, AZ 86032

(928) 587-0319

Phone

FAX

Project Name: CCR Groundwater Monitoring

Site: APS Cholla Power Plant (BAP)

PO #: 300592358

Natalie Chrisman
602) 250-3608

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS

TAT if different from Below

2 weeks

1 week

2 days

1 day

Pam Norris (505) 598-8781

Lab Contact: Danielle Roberts

Date:

Carrier:

COC No.:

1 of 4 COCs

Sampler:

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

Sample Specific Notes:

Low Flow

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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments: Return to Client Disposal by Lab Archive for _____ Months

Perform Method 200.8 with collision cell. *As marked on the bottle: perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No

Relinquished by: *MP* Company: *WSP* Date/Time: *10-13-23 16:49*

Relinquished by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]*

Received in Laboratory by: *[Signature]* Company: *EGSSS* Date/Time: *10-13-23 16:49*

Received by: *[Signature]* Company: *[Signature]* Date/Time: *[Signature]*

Received in Laboratory by: *[Signature]* Company: *EGSSS* Date/Time: *10-13-23 16:49*

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209146-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209146
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209146-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209146
List Number: 2
Creator: Held, Wesley

List Source: Eurofins Denver
List Creation: 10/17/23 06:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 11/14/2023 9:19:18 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (BAP)

JOB NUMBER

550-209476-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
11/14/2023 9:19:18 AM

Authorized for release by
Linda Eshelman, Project Manager II
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(602)659-7681



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
L3	The associated blank spike recovery was above method acceptance limits.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-209476-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209476-1

Receipt

The samples were received on 10/20/2023 3:01 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 1.9° C, 2.1° C, 2.3° C, 3.1° C, 3.2° C and 4.6° C.

HPLC/IC

Method 300.0: The following sample was diluted due to the nature of the sample matrix: CH-CCR-MW72M-1023 (550-209476-9). Elevated reporting limits (RLs) are provided. The following samples contain an analyte not part of the method profile which interferes with fluoride providing an indiscernible chromatogram. A 2x dilution is required.

Method 300.0: Due to the high concentration of chloride and sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309930 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method 300.0: Due to the high concentration of chloride and sulfate, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-309960 could not be evaluated for accuracy and precision of those analytes. The associated laboratory control sample (LCS) met acceptance criteria.

Methods 300.0, 9056A: The following samples were analyzed outside of analytical holding time due to analyst scheduling errors: (550-209060-O-1) and (550-209060-O-1 ^10)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 200.8 LL: The laboratory control sample (LCS) associated with preparation batch 550-309752 and analytical batch 550-309934 was outside acceptance criteria for the analyte Barium. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance. CH-CCR-W306-1023 (550-209476-21) and CH-CCR-W314-1023 (550-209476-23)

Method 200.8 LL: The laboratory control sample (LCS) associated with preparation batch 550-309755 and analytical batch 550-309935 was outside acceptance criteria for the analyte Barium. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance. CH-CCR-M53A-1023 (550-209476-1), CH-CCR-MW69A-1023 (550-209476-3), CH-CCR-MW70M-1023 (550-209476-5), CH-CCR-MW71A-1023 (550-209476-7), CH-CCR-MW72M-1023 (550-209476-9), CH-CCR-MW73A-1023 (550-209476-11), CH-CCR-MW74M-1023 (550-209476-13), CH-CCR-MW77A-1023 (550-209476-15), CH-CCR-W301-1023 (550-209476-17) and CH-CCR-W303-1023 (550-209476-19)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method SM 2540C: Constant weight was not achieved after 3 drying cycles for the following sample: CH-CCR-MW72M-1023 (550-209476-9).

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-310867 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209476-1	CH-CCR-M53A-1023	Water	10/19/23 11:48	10/20/23 15:01
550-209476-2	CH-CCR-M53A-1023	Water	10/19/23 11:48	10/20/23 15:01
550-209476-3	CH-CCR-MW69A-1023	Water	10/19/23 09:11	10/20/23 15:01
550-209476-4	CH-CCR-MW69A-1023	Water	10/19/23 09:11	10/20/23 15:01
550-209476-5	CH-CCR-MW70M-1023	Water	10/18/23 15:43	10/20/23 15:01
550-209476-6	CH-CCR-MW70M-1023	Water	10/18/23 15:43	10/20/23 15:01
550-209476-7	CH-CCR-MW71A-1023	Water	10/18/23 13:12	10/20/23 15:01
550-209476-8	CH-CCR-MW71A-1023	Water	10/18/23 13:12	10/20/23 15:01
550-209476-9	CH-CCR-MW72M-1023	Water	10/18/23 14:02	10/20/23 15:01
550-209476-10	CH-CCR-MW72M-1023	Water	10/18/23 14:02	10/20/23 15:01
550-209476-11	CH-CCR-MW73A-1023	Water	10/18/23 11:00	10/20/23 15:01
550-209476-12	CH-CCR-MW73A-1023	Water	10/18/23 11:00	10/20/23 15:01
550-209476-13	CH-CCR-MW74M-1023	Water	10/18/23 10:00	10/20/23 15:01
550-209476-14	CH-CCR-MW74M-1023	Water	10/18/23 10:00	10/20/23 15:01
550-209476-15	CH-CCR-MW77A-1023	Water	10/17/23 14:54	10/20/23 15:01
550-209476-16	CH-CCR-MW77A-1023	Water	10/17/23 14:54	10/20/23 15:01
550-209476-17	CH-CCR-W301-1023	Water	10/19/23 15:52	10/20/23 15:01
550-209476-18	CH-CCR-W301-1023	Water	10/19/23 15:52	10/20/23 15:01
550-209476-19	CH-CCR-W303-1023	Water	10/19/23 13:35	10/20/23 15:01
550-209476-20	CH-CCR-W303-1023	Water	10/19/23 13:35	10/20/23 15:01
550-209476-21	CH-CCR-W306-1023	Water	10/19/23 10:30	10/20/23 15:01
550-209476-22	CH-CCR-W306-1023	Water	10/19/23 10:30	10/20/23 15:01
550-209476-23	CH-CCR-W314-1023	Water	10/19/23 08:45	10/20/23 15:01
550-209476-24	CH-CCR-W314-1023	Water	10/19/23 08:45	10/20/23 15:01



Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	100	mg/L	50		300.0	Total/NA
Fluoride	2.4	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	100	mg/L	50		300.0	Total/NA
Fluoride	2.7	D1	0.80	mg/L	2		9056A	Total/NA
Boron	3.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	580	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.28		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0031		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.012	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cadmium	0.00069		0.00050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0085		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.035	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.25		0.050	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7800		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.7		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	7.4		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	100	mg/L	50		300.0	Total/NA
Boron	3.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	630		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.50		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.1		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.26		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0025		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.019	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.015		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.029	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.055		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8400		100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-1023 (Continued)

Lab Sample ID: 550-209476-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.8		0.010	mg/L	1		200.7	Dissolved
Cobalt	15		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.3	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	100	mg/L	50		300.0	Total/NA
Boron	2.3		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	620		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	150		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.7		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	7.9		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.25		0.10	mg/L	2		200.7 Rev 4.4	Total
Barium	0.011	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.0079		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.016		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.030	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	88		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	88		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7500		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.7		0.010	mg/L	1		200.7	Dissolved
Cobalt	16		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	870	D2	40	mg/L	20		300.0	Total/NA
Fluoride	3.4	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	1200	D2	40	mg/L	20		300.0	Total/NA
Fluoride	3.5	D1	0.80	mg/L	2		9056A	Total/NA
Boron	3.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-1023 (Continued)

Lab Sample ID: 550-209476-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	630		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.3		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.25		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0025		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.013	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.014		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.034	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.40		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	84		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	84		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7800		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.7	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	5.3		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.6		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	14		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW72M-1023

Lab Sample ID: 550-209476-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	35000	D2	400	mg/L	200		300.0	Total/NA
Sulfate	1800		40	mg/L	20		300.0	Total/NA
Calcium	8200		20	mg/L	10		200.7 Rev 4.4	Total/NA
Magnesium	1000		20	mg/L	10		200.7 Rev 4.4	Total/NA
Manganese	3.2		0.10	mg/L	10		200.7 Rev 4.4	Total/NA
Potassium	130		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Sodium	12000		10	mg/L	20		200.7 Rev 4.4	Total/NA
Lithium	3.8		1.0	mg/L	20		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0076		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.13	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.056		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0027		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.019	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Selenium	0.0027		0.0025	mg/L	5		200.8 LL	Total/NA
Thallium	0.0015		0.00050	mg/L	5		200.8 LL	Total/NA
Ammonia	0.75		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.33		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	21		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	21		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	61000		1000	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-1023 (Continued)

Lab Sample ID: 550-209476-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.55	M2	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.56	M2	0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.55	M2	0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW72M-1023

Lab Sample ID: 550-209476-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.2		0.10	mg/L	10		200.7	Dissolved
Arsenic	7.9		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	2.5		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	100	mg/L	50		300.0	Total/NA
Fluoride	4.2	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	4.3	D1	0.80	mg/L	2		9056A	Total/NA
Boron	5.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.44		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.14		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	19		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.29		0.10	mg/L	2		200.7 Rev 4.4	Total
								Recoverable
Arsenic	0.0026		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.012	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.097		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0087		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.044	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Nitrate Nitrite as N	0.33		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8900		100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.025		0.010	mg/L	1		200.7	Dissolved
Cobalt	8.0		2.5	ug/L	5		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.4	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.3	D1	0.80	mg/L	2		9056A	Total/NA
Boron	2.1		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	140		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.15		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	13		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.29		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Barium	0.0088	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.015		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.039	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	86		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	86		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400		100	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.98		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.99		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.98		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.14		0.010	mg/L	1		200.7	Dissolved
Cobalt	15		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3600		100	mg/L	50		300.0	Total/NA
Sulfate	4700		100	mg/L	50		300.0	Total/NA
Fluoride	0.50		0.40	mg/L	1		9056A	Total/NA
Boron	0.72		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	550		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.66		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.58		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0029		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0079	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.0092		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.0046		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0061	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	220		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-1023 (Continued)

Lab Sample ID: 550-209476-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.65		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.0		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	5.1		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5700	D2	100	mg/L	50		300.0	Total/NA
Sulfate	3700	D2	100	mg/L	50		300.0	Total/NA
Boron	0.63		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	180		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.2		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4400		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.67		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0037		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0072	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cobalt	0.023		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0059	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Selenium	0.0034		0.0025	mg/L	5		200.8 LL	Total/NA
Nitrate Nitrite as N	13		0.20	mg/L	2		353.2	Total/NA
Alkalinity as CaCO3	160		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000		200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.9		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.9		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.9		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.4		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.5		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	22		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	100	mg/L	50		300.0	Total/NA
Sulfate	3500	D2	100	mg/L	50		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-1023 (Continued)

Lab Sample ID: 550-209476-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.8		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.66		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2600		5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.48		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0027		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0037	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.014		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.020		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.031	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	190		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	190		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.6		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.66		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.8		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	20		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	100	mg/L	50		300.0	Total/NA
Fluoride	1.3	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	11000	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.0		0.40	mg/L	1		9056A	Total/NA
Beryllium	0.010		0.0010	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	420		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.013		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.4		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5800		10	mg/L	20		200.7 Rev 4.4	Total/NA
Lithium	0.93		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0065		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.012	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.047	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	18000		200	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-1023 (Continued)

Lab Sample ID: 550-209476-21

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Temperature	8.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-22

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.010		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.5		2.5	ug/L	5		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-23

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	100	mg/L	50		300.0	Total/NA
Fluoride	0.97	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	100	mg/L	50		300.0	Total/NA
Boron	1.5		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.24		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.36		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0025		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0090	L3	0.0025	mg/L	5		200.8 LL	Total/NA
Cadmium	0.00059		0.00050	mg/L	5		200.8 LL	Total/NA
Chromium	0.039		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.045		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.019	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-24

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.26		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.5		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	47		2.5	ug/L	5		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-1

Date Collected: 10/19/23 11:48

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	100	mg/L			10/22/23 03:31	50
Fluoride	2.4	D2	0.80	mg/L			10/22/23 03:13	2
Sulfate	2900	D2	100	mg/L			10/22/23 03:31	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.7	D1	0.80	mg/L			11/02/23 20:20	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:11	1
Boron	3.8		0.050	mg/L		10/23/23 06:31	10/25/23 18:11	1
Calcium	580	M3	2.0	mg/L		10/23/23 06:31	10/25/23 18:11	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:11	1
Manganese	5.1		0.010	mg/L		10/23/23 06:31	10/25/23 18:11	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.28		0.10	mg/L		10/25/23 08:52	10/28/23 09:56	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:43	5
Arsenic	0.0031		0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Barium	0.012	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Cadmium	0.00069		0.00050	mg/L		10/23/23 09:48	10/24/23 17:43	5
Chromium	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:43	5
Cobalt	0.0085		0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Molybdenum	0.035	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:43	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:43	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.25		0.050	mg/L			10/30/23 14:54	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:30	1
Total Dissolved Solids (SM 2540C)	7800		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/26/23 08:46	1
Temperature (SM 4500 H+ B)	6.9	H5 T5	0.1	Degrees C			10/26/23 08:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1		0.50	mg/L			11/08/23 01:37	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1		0.50	mg/L			11/08/23 01:37	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-1

Date Collected: 10/19/23 11:48

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			11/08/23 01:37	1

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-2

Date Collected: 10/19/23 11:48

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:14	1
Manganese	4.9		0.010	mg/L		10/23/23 06:31	10/25/23 18:14	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.7		2.5	ug/L		10/23/23 09:48	10/24/23 17:46	5
Cobalt	7.4		2.5	ug/L		10/23/23 09:48	10/24/23 17:46	5

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-3

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	100	mg/L			10/22/23 04:08	50
Fluoride	1.4	D2	0.80	mg/L			10/22/23 03:50	2
Sulfate	2900	D2	100	mg/L			10/22/23 04:08	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:17	1
Boron	3.1		0.050	mg/L		10/23/23 06:31	10/25/23 18:17	1
Calcium	630		2.0	mg/L		10/23/23 06:31	10/25/23 18:17	1
Iron	0.50		0.10	mg/L		10/23/23 06:31	10/25/23 18:17	1
Magnesium	160		2.0	mg/L		10/23/23 06:31	10/25/23 18:17	1
Manganese	2.9		0.010	mg/L		10/23/23 06:31	10/25/23 18:17	1
Potassium	5.1		0.50	mg/L		10/23/23 06:31	10/25/23 18:17	1
Sodium	1800		5.0	mg/L		10/23/23 06:31	10/26/23 19:38	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.26		0.10	mg/L		10/25/23 08:52	10/28/23 10:04	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:39	5
Arsenic	0.0025		0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5
Barium	0.019	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:39	5
Chromium	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:39	5
Cobalt	0.015		0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5
Molybdenum	0.029	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-3

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:39	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:39	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:17	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.055		0.050	mg/L			11/01/23 13:53	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:42	1
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/24/23 15:35	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 15:35	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			10/24/23 15:35	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:35	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:35	1
Total Dissolved Solids (SM 2540C)	8400		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 08:48	1
Temperature (SM 4500 H+ B)	5.9	H5 T5	0.1	Degrees C			10/26/23 08:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			11/08/23 02:00	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			11/08/23 02:00	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			11/08/23 02:00	1

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-4

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:20	1
Manganese	2.8		0.010	mg/L		10/23/23 06:31	10/25/23 18:20	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5	ug/L		10/23/23 09:48	10/24/23 17:41	5
Cobalt	15		2.5	ug/L		10/23/23 09:48	10/24/23 17:41	5

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-5

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	100	mg/L			10/22/23 04:45	50

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-5

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.3	D2	0.80	mg/L			10/22/23 04:27	2
Sulfate	2700	D2	100	mg/L			10/22/23 04:45	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:23	1
Boron	2.3		0.050	mg/L		10/23/23 06:31	10/25/23 18:23	1
Calcium	620		2.0	mg/L		10/23/23 06:31	10/25/23 18:23	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:23	1
Magnesium	150		2.0	mg/L		10/23/23 06:31	10/25/23 18:23	1
Manganese	1.7		0.010	mg/L		10/23/23 06:31	10/25/23 18:23	1
Potassium	7.9		0.50	mg/L		10/23/23 06:31	10/25/23 18:23	1
Sodium	1600		5.0	mg/L		10/23/23 06:31	10/26/23 19:41	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.25		0.10	mg/L		10/25/23 08:52	10/28/23 10:06	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:48	5
Arsenic	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Barium	0.011	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:48	5
Chromium	0.0079		0.0050	mg/L		10/23/23 09:48	10/24/23 17:48	5
Cobalt	0.016		0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Molybdenum	0.030	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:48	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:48	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:19	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 13:58	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:44	1
Alkalinity as CaCO3 (SM 2320B)	88		6.0	mg/L			10/24/23 15:49	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 15:49	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	88		6.0	mg/L			10/24/23 15:49	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:49	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:49	1
Total Dissolved Solids (SM 2540C)	7500		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 08:50	1
Temperature (SM 4500 H+ B)	6.5	H5 T5	0.1	Degrees C			10/26/23 08:50	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-5

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.2		0.50	mg/L			11/08/23 22:03	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			11/08/23 22:03	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.2		0.50	mg/L			11/08/23 22:03	1

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-6

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:26	1
Manganese	1.7		0.010	mg/L		10/23/23 06:31	10/25/23 18:26	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5	ug/L		10/23/23 09:48	10/24/23 17:50	5
Cobalt	16		2.5	ug/L		10/23/23 09:48	10/24/23 17:50	5

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-7

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	870	D2	40	mg/L			10/22/23 05:22	20
Fluoride	3.4	D2	0.80	mg/L			10/22/23 05:03	2
Sulfate	1200	D2	40	mg/L			10/22/23 05:22	20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.5	D1	0.80	mg/L			11/02/23 20:39	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:28	1
Boron	3.5		0.050	mg/L		10/23/23 06:31	10/25/23 18:28	1
Calcium	630		2.0	mg/L		10/23/23 06:31	10/25/23 18:28	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:28	1
Magnesium	220		2.0	mg/L		10/23/23 06:31	10/25/23 18:28	1
Manganese	5.3		0.010	mg/L		10/23/23 06:31	10/25/23 18:28	1
Potassium	15		0.50	mg/L		10/23/23 06:31	10/25/23 18:28	1
Sodium	1600		5.0	mg/L		10/23/23 06:31	10/26/23 19:43	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.25		0.10	mg/L		10/25/23 08:52	10/28/23 10:08	2

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-7

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:52	5
Arsenic	0.0025		0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Barium	0.013	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:52	5
Chromium	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:52	5
Cobalt	0.014		0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Molybdenum	0.034	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:52	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:52	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:21	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.40		0.050	mg/L			11/01/23 13:59	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 13:58	1
Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			10/24/23 15:56	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 15:56	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	84		6.0	mg/L			10/24/23 15:56	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:56	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 15:56	1
Total Dissolved Solids (SM 2540C)	7800		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 08:51	1
Temperature (SM 4500 H+ B)	6.7	H5 T5	0.1	Degrees C			10/26/23 08:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1		0.50	mg/L			11/08/23 02:44	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1		0.50	mg/L			11/08/23 02:44	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			11/08/23 02:44	1

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-8

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:31	1
Manganese	5.3		0.010	mg/L		10/23/23 06:31	10/25/23 18:31	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.6		2.5	ug/L		10/23/23 09:48	10/24/23 17:54	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-8

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	14		2.5	ug/L		10/23/23 09:48	10/24/23 17:54	5

Client Sample ID: CH-CCR-MW72M-1023

Lab Sample ID: 550-209476-9

Date Collected: 10/18/23 14:02

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	35000	D2	400	mg/L			10/28/23 21:03	200
Fluoride	ND	D1 D5	0.80	mg/L			10/22/23 05:40	2
Sulfate	1800		40	mg/L			10/22/23 06:54	20

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	D2	80	mg/L			10/28/23 21:03	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.010	mg/L		10/23/23 06:31	10/26/23 19:46	10
Boron	ND		0.50	mg/L		10/23/23 06:31	10/26/23 19:46	10
Calcium	8200		20	mg/L		10/23/23 06:31	10/26/23 19:46	10
Iron	ND		1.0	mg/L		10/23/23 06:31	10/26/23 19:46	10
Magnesium	1000		20	mg/L		10/23/23 06:31	10/26/23 19:46	10
Manganese	3.2		0.10	mg/L		10/23/23 06:31	10/26/23 19:46	10
Potassium	130		5.0	mg/L		10/23/23 06:31	10/26/23 19:46	10
Sodium	12000		10	mg/L		10/23/23 06:31	10/30/23 14:56	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	3.8		1.0	mg/L		10/25/23 08:52	10/31/23 18:18	20

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 17:56	5
Arsenic	0.0076		0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Barium	0.13	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:56	5
Chromium	0.056		0.0050	mg/L		10/23/23 09:48	10/24/23 17:56	5
Cobalt	0.0027		0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Molybdenum	0.019	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Selenium	0.0027		0.0025	mg/L		10/23/23 09:48	10/24/23 17:56	5
Thallium	0.0015		0.00050	mg/L		10/23/23 09:48	10/24/23 17:56	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:23	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.75		0.050	mg/L			11/01/23 14:01	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-1023

Lab Sample ID: 550-209476-9

Date Collected: 10/18/23 14:02

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.33		0.10	mg/L			10/25/23 14:00	1
Alkalinity as CaCO3 (SM 2320B)	21		6.0	mg/L			10/24/23 16:02	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:02	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	21		6.0	mg/L			10/24/23 16:02	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:02	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:02	1
Total Dissolved Solids (SM 2540C)	61000		1000	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 08:53	1
Temperature (SM 4500 H+ B)	6.6	H5 T5	0.1	Degrees C			10/26/23 08:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.55	M2	0.50	mg/L			11/08/23 21:02	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.56	M2	0.50	mg/L			11/08/23 21:02	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.55	M2	0.50	mg/L			11/08/23 21:02	1

Client Sample ID: CH-CCR-MW72M-1023

Lab Sample ID: 550-209476-10

Date Collected: 10/18/23 14:02

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		1.0	mg/L		10/23/23 06:31	10/26/23 19:49	10
Manganese	3.2		0.10	mg/L		10/23/23 06:31	10/26/23 19:49	10

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.9		2.5	ug/L		10/23/23 09:48	10/24/23 17:58	5
Cobalt	2.5		2.5	ug/L		10/23/23 09:48	10/24/23 17:58	5

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-11

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	100	mg/L			10/22/23 07:31	50
Fluoride	4.2	D2	0.80	mg/L			10/22/23 07:12	2
Sulfate	3300	D2	100	mg/L			10/22/23 07:31	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	4.3	D1	0.80	mg/L			11/02/23 20:57	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:45	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-11

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.2		0.050	mg/L		10/23/23 06:31	10/25/23 18:45	1
Calcium	690		2.0	mg/L		10/23/23 06:31	10/25/23 18:45	1
Iron	0.44		0.10	mg/L		10/23/23 06:31	10/25/23 18:45	1
Magnesium	300		2.0	mg/L		10/23/23 06:31	10/25/23 18:45	1
Manganese	0.14		0.010	mg/L		10/23/23 06:31	10/25/23 18:45	1
Potassium	19		0.50	mg/L		10/23/23 06:31	10/25/23 18:45	1
Sodium	1800		5.0	mg/L		10/23/23 06:31	10/26/23 19:58	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.29		0.10	mg/L		10/25/23 08:52	10/28/23 10:13	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:06	5
Arsenic	0.0026		0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Barium	0.012	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:06	5
Chromium	0.097		0.0050	mg/L		10/23/23 09:48	10/24/23 18:06	5
Cobalt	0.0087		0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Molybdenum	0.044	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:06	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:06	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:25	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:02	1
Nitrate Nitrite as N (EPA 353.2)	0.33		0.10	mg/L			10/25/23 14:02	1
Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			10/24/23 16:06	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	130		6.0	mg/L			10/24/23 16:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:06	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:06	1
Total Dissolved Solids (SM 2540C)	8900		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			10/26/23 08:55	1
Temperature (SM 4500 H+ B)	7.6	H5 T5	0.1	Degrees C			10/26/23 08:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			11/08/23 04:12	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			11/08/23 04:12	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-11

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			11/08/23 04:12	1

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-12

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:48	1
Manganese	0.025		0.010	mg/L		10/23/23 06:31	10/25/23 18:48	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5	ug/L		10/23/23 09:48	10/24/23 18:08	5
Cobalt	8.0		2.5	ug/L		10/23/23 09:48	10/24/23 18:08	5

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-13

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	100	mg/L			10/22/23 08:08	50
Fluoride	1.4	D2	0.80	mg/L			10/22/23 07:49	2
Sulfate	2600	D2	100	mg/L			10/22/23 08:08	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.3	D1	0.80	mg/L			11/02/23 21:16	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:51	1
Boron	2.1		0.050	mg/L		10/23/23 06:31	10/25/23 18:51	1
Calcium	690		2.0	mg/L		10/23/23 06:31	10/25/23 18:51	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:51	1
Magnesium	140		2.0	mg/L		10/23/23 06:31	10/25/23 18:51	1
Manganese	0.15		0.010	mg/L		10/23/23 06:31	10/25/23 18:51	1
Potassium	13		0.50	mg/L		10/23/23 06:31	10/25/23 18:51	1
Sodium	1500		5.0	mg/L		10/23/23 06:31	10/26/23 20:01	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.29		0.10	mg/L		10/25/23 08:52	10/28/23 10:16	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:10	5
Arsenic	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Barium	0.0088	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:10	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-13

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:10	5
Cobalt	0.015		0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Molybdenum	0.039	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:10	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:10	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:32	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:04	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 14:04	1
Alkalinity as CaCO3 (SM 2320B)	86		6.0	mg/L			10/24/23 16:13	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:13	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	86		6.0	mg/L			10/24/23 16:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:13	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:13	1
Total Dissolved Solids (SM 2540C)	7400		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.9	H5	1.7	SU			10/26/23 08:56	1
Temperature (SM 4500 H+ B)	7.4	H5 T5	0.1	Degrees C			10/26/23 08:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.98		0.50	mg/L			11/08/23 04:33	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.99		0.50	mg/L			11/08/23 04:33	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.98		0.50	mg/L			11/08/23 04:33	1

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-14

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:54	1
Manganese	0.14		0.010	mg/L		10/23/23 06:31	10/25/23 18:54	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		2.5	ug/L		10/23/23 09:48	10/24/23 18:12	5
Cobalt	15		2.5	ug/L		10/23/23 09:48	10/24/23 18:12	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-15

Date Collected: 10/17/23 14:54

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3600		100	mg/L			10/22/23 09:22	50
Fluoride	ND	D2	0.80	mg/L			10/22/23 07:30	2
Sulfate	4700		100	mg/L			10/22/23 09:22	50

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.50		0.40	mg/L			10/30/23 12:18	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 18:57	1
Boron	0.72		0.050	mg/L		10/23/23 06:31	10/25/23 18:57	1
Calcium	550		2.0	mg/L		10/23/23 06:31	10/25/23 18:57	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 18:57	1
Magnesium	100		2.0	mg/L		10/23/23 06:31	10/25/23 18:57	1
Manganese	0.66		0.010	mg/L		10/23/23 06:31	10/25/23 18:57	1
Potassium	3.8		0.50	mg/L		10/23/23 06:31	10/25/23 18:57	1
Sodium	3300		5.0	mg/L		10/23/23 06:31	10/26/23 20:04	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.58		0.10	mg/L		10/25/23 08:52	10/28/23 10:18	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:14	5
Arsenic	0.0029		0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Barium	0.0079	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:14	5
Chromium	0.0092		0.0050	mg/L		10/23/23 09:48	10/24/23 18:14	5
Cobalt	0.0046		0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Molybdenum	0.0061	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:14	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:14	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:36	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:05	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 14:10	1
Alkalinity as CaCO3 (SM 2320B)	220		6.0	mg/L			10/24/23 16:19	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:19	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	220		6.0	mg/L			10/24/23 16:19	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:19	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:19	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-15

Date Collected: 10/17/23 14:54

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			10/23/23 15:06	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/26/23 08:57	1
Temperature (SM 4500 H+ B)	7.6	H5 T5	0.1	Degrees C			10/26/23 08:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			11/08/23 04:55	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			11/08/23 04:55	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			11/08/23 04:55	1

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-16

Date Collected: 10/17/23 14:54

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 19:00	1
Manganese	0.65		0.010	mg/L		10/23/23 06:31	10/25/23 19:00	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.0		2.5	ug/L		10/23/23 09:48	10/24/23 18:16	5
Cobalt	5.1		2.5	ug/L		10/23/23 09:48	10/24/23 18:16	5

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-17

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700	D2	100	mg/L			10/22/23 10:17	50
Fluoride	ND	D2	0.80	mg/L			10/22/23 09:49	2
Sulfate	3700	D2	100	mg/L			10/22/23 10:17	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 19:02	1
Boron	0.63		0.050	mg/L		10/23/23 06:31	10/25/23 19:02	1
Calcium	750		2.0	mg/L		10/23/23 06:31	10/25/23 19:02	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 19:02	1
Magnesium	180		2.0	mg/L		10/23/23 06:31	10/25/23 19:02	1
Manganese	1.5		0.010	mg/L		10/23/23 06:31	10/25/23 19:02	1
Potassium	6.2		0.50	mg/L		10/23/23 06:31	10/25/23 19:02	1
Sodium	4400		5.0	mg/L		10/23/23 06:31	10/26/23 20:06	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.67		0.10	mg/L		10/25/23 08:52	10/28/23 10:29	2

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-17

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:18	5
Arsenic	0.0037		0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Barium	0.0072	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:18	5
Chromium	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:18	5
Cobalt	0.023		0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Molybdenum	0.0059	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Selenium	0.0034		0.0025	mg/L		10/23/23 09:48	10/24/23 18:18	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:18	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:38	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:07	1
Nitrate Nitrite as N (EPA 353.2)	13		0.20	mg/L			10/25/23 14:16	2
Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			10/24/23 16:27	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	160		6.0	mg/L			10/24/23 16:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:27	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:27	1
Total Dissolved Solids (SM 2540C)	14000		200	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			10/26/23 08:59	1
Temperature (SM 4500 H+ B)	7.9	H5 T5	0.1	Degrees C			10/26/23 08:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.9		0.50	mg/L			11/08/23 05:17	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.9		0.50	mg/L			11/08/23 05:17	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.9		0.50	mg/L			11/08/23 05:17	1

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-18

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 19:05	1
Manganese	1.4		0.010	mg/L		10/23/23 06:31	10/25/23 19:05	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		2.5	ug/L		10/23/23 09:48	10/24/23 18:20	5

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-18

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	22		2.5	ug/L		10/23/23 09:48	10/24/23 18:20	5

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-19

Date Collected: 10/19/23 13:35

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3300	D2	100	mg/L			10/24/23 19:02	50
Fluoride	ND		0.80	mg/L			10/24/23 18:34	2
Sulfate	3500	D2	100	mg/L			10/24/23 19:02	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 19:08	1
Boron	3.8		0.050	mg/L		10/23/23 06:31	10/25/23 19:08	1
Calcium	670		2.0	mg/L		10/23/23 06:31	10/25/23 19:08	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 19:08	1
Magnesium	220		2.0	mg/L		10/23/23 06:31	10/25/23 19:08	1
Manganese	0.66		0.010	mg/L		10/23/23 06:31	10/25/23 19:08	1
Potassium	4.4		0.50	mg/L		10/23/23 06:31	10/25/23 19:08	1
Sodium	2600		5.0	mg/L		10/23/23 06:31	10/26/23 20:09	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.48		0.10	mg/L		10/25/23 08:52	10/28/23 10:31	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:48	10/24/23 18:22	5
Arsenic	0.0027		0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Barium	0.0037	L3	0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:22	5
Chromium	0.014		0.0050	mg/L		10/23/23 09:48	10/24/23 18:22	5
Cobalt	0.020		0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Lead	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Molybdenum	0.031	T5	0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Selenium	ND		0.0025	mg/L		10/23/23 09:48	10/24/23 18:22	5
Thallium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 18:22	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:40	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:08	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 14:30	1
Alkalinity as CaCO3 (SM 2320B)	190		6.0	mg/L			10/24/23 16:34	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-19

Date Collected: 10/19/23 13:35

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	190		6.0	mg/L			10/24/23 16:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:34	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:34	1
Total Dissolved Solids (SM 2540C)	11000		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/26/23 09:00	1
Temperature (SM 4500 H+ B)	8.1	H5 T5	0.1	Degrees C			10/26/23 09:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.6		0.50	mg/L			11/08/23 05:40	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.6		0.50	mg/L			11/08/23 05:40	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.6		0.50	mg/L			11/08/23 05:40	1

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-20

Date Collected: 10/19/23 13:35

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 19:11	1
Manganese	0.66		0.010	mg/L		10/23/23 06:31	10/25/23 19:11	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.8		2.5	ug/L		10/23/23 09:48	10/24/23 18:24	5
Cobalt	20		2.5	ug/L		10/23/23 09:48	10/24/23 18:24	5

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-21

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	100	mg/L			10/24/23 16:09	50
Fluoride	1.3	D2	0.80	mg/L			10/24/23 15:50	2
Sulfate	11000	D2	400	mg/L			10/28/23 21:59	200

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.0		0.40	mg/L			10/30/23 14:27	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.010		0.0010	mg/L		10/23/23 06:49	10/24/23 19:07	1
Boron	1.0		0.050	mg/L		10/23/23 06:49	10/24/23 19:07	1
Calcium	420		2.0	mg/L		10/23/23 06:49	10/24/23 19:07	1
Iron	ND		0.10	mg/L		10/23/23 06:49	10/24/23 19:07	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-21

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	230		2.0	mg/L		10/23/23 06:49	10/24/23 19:07	1
Manganese	0.013		0.010	mg/L		10/23/23 06:49	10/24/23 19:07	1
Potassium	6.4		0.50	mg/L		10/23/23 06:49	10/24/23 19:07	1
Sodium	5800		10	mg/L		10/23/23 06:49	10/26/23 20:23	20

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.93		0.050	mg/L		10/25/23 08:52	10/27/23 20:13	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:30	10/24/23 16:42	5
Arsenic	0.0065		0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Barium	0.012	L3	0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Cadmium	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 16:42	5
Chromium	ND		0.0050	mg/L		10/23/23 09:30	10/24/23 16:42	5
Cobalt	ND		0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Lead	ND		0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Molybdenum	0.047	T5	0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Selenium	ND		0.0025	mg/L		10/23/23 09:30	10/24/23 16:42	5
Thallium	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 16:42	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:42	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 14:10	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 14:32	1
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/24/23 16:41	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			10/24/23 16:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			10/24/23 16:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:41	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			10/24/23 16:41	1
Total Dissolved Solids (SM 2540C)	18000		200	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.9	H5	1.7	SU			10/26/23 09:03	1
Temperature (SM 4500 H+ B)	8.6	H5 T5	0.1	Degrees C			10/26/23 09:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	2.4		0.50	mg/L			11/08/23 06:02	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	2.4		0.50	mg/L			11/08/23 06:02	1
Dissolved Organic Carbon - Quad (SM 5310B)	2.4		0.50	mg/L			11/08/23 06:02	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-22

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:49	10/24/23 19:10	1
Manganese	0.010		0.010	mg/L		10/23/23 06:49	10/24/23 19:10	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5		2.5	ug/L		10/23/23 09:30	10/24/23 16:44	5
Cobalt	ND		2.5	ug/L		10/23/23 09:30	10/24/23 16:44	5

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-23

Date Collected: 10/19/23 08:45

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	100	mg/L			10/24/23 17:48	50
Fluoride	0.97	D2	0.80	mg/L			10/24/23 16:27	2
Sulfate	2600	D2	100	mg/L			10/24/23 17:48	50

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:49	10/24/23 19:13	1
Boron	1.5		0.050	mg/L		10/23/23 06:49	10/24/23 19:13	1
Calcium	670		2.0	mg/L		10/23/23 06:49	10/24/23 19:13	1
Iron	ND		0.10	mg/L		10/23/23 06:49	10/24/23 19:13	1
Manganese	0.24		0.010	mg/L		10/23/23 06:49	10/24/23 19:13	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.36		0.10	mg/L		10/25/23 08:52	10/28/23 10:39	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/23/23 09:30	10/24/23 16:46	5
Arsenic	0.0025		0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Barium	0.0090	L3	0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Cadmium	0.00059		0.00050	mg/L		10/23/23 09:30	10/24/23 16:46	5
Chromium	0.039		0.0050	mg/L		10/23/23 09:30	10/24/23 16:46	5
Cobalt	0.045		0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Lead	ND		0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Molybdenum	0.019	T5	0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Selenium	ND		0.0025	mg/L		10/23/23 09:30	10/24/23 16:46	5
Thallium	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 16:46	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/24/23 13:22	10/24/23 16:44	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			10/30/23 13:45	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/25/23 14:34	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-23

Date Collected: 10/19/23 08:45

Matrix: Water

Date Received: 10/20/23 15:01

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			10/24/23 11:20	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/26/23 09:05	1
Temperature (SM 4500 H+ B)	7.9	H5 T5	0.1	Degrees C			10/26/23 09:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.3		0.50	mg/L			11/08/23 06:19	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.3		0.50	mg/L			11/08/23 06:19	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			11/08/23 06:19	1

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-24

Date Collected: 10/19/23 08:45

Matrix: Water

Date Received: 10/20/23 15:01

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/23/23 06:49	10/24/23 19:15	1
Manganese	0.26		0.010	mg/L		10/23/23 06:49	10/24/23 19:15	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.5		2.5	ug/L		10/23/23 09:30	10/24/23 16:48	5
Cobalt	47		2.5	ug/L		10/23/23 09:30	10/24/23 16:48	5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-309841/2
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/21/23 14:43	1
Fluoride	ND		0.40	mg/L			10/21/23 14:43	1
Sulfate	ND		2.0	mg/L			10/21/23 14:43	1

Lab Sample ID: LCS 550-309841/5
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		101	90 - 110
Fluoride	4.00	4.22		mg/L		105	90 - 110
Sulfate	20.0	20.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309841/6
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	4.21		mg/L		105	90 - 110	0	20
Sulfate	20.0	20.0		mg/L		100	90 - 110	0	20

Lab Sample ID: 550-209146-A-19 MS ^10
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1600	M3	200	1740	M3	mg/L		78	80 - 120
Fluoride	ND		40.0	40.6		mg/L		102	80 - 120
Sulfate	640	M1	200	832		mg/L		97	80 - 120

Lab Sample ID: 550-209146-A-19 MSD ^10
Matrix: Water
Analysis Batch: 309841

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1600	M3	200	2040	E2 M3	mg/L		231	80 - 120	16	20
Fluoride	ND		40.0	40.4		mg/L		101	80 - 120	1	20
Sulfate	640	M1	200	979	M1	mg/L		170	80 - 120	16	20

Lab Sample ID: MB 550-309850/2
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/21/23 14:27	1
Fluoride	ND		0.40	mg/L			10/21/23 14:27	1
Sulfate	ND		2.0	mg/L			10/21/23 14:27	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-309850/5
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.31		mg/L		108	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-309850/6
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.35		mg/L		109	90 - 110	1	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-209102-A-1 MS ^10
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	290	D2	200	500	D2	mg/L		103	80 - 120
Fluoride	ND		40.0	43.1	D2	mg/L		105	80 - 120
Sulfate	480	D2	200	670	D2	mg/L		96	80 - 120

Lab Sample ID: 550-209102-A-1 MSD ^10
Matrix: Water
Analysis Batch: 309850

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	290	D2	200	499	D2	mg/L		103	80 - 120	0	20
Fluoride	ND		40.0	43.0	D2	mg/L		105	80 - 120	0	20
Sulfate	480	D2	200	670	D2	mg/L		95	80 - 120	0	20

Lab Sample ID: MB 550-309930/2
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/24/23 12:02	1
Fluoride	ND		0.40	mg/L			10/24/23 12:02	1
Sulfate	ND		2.0	mg/L			10/24/23 12:02	1

Lab Sample ID: LCS 550-309930/5
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-309930/6
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.19		mg/L		105	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-209520-E-1 MS
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	96	M3	20.0	109	E2 M3	mg/L		67	80 - 120
Fluoride	1.1		4.00	5.07		mg/L		98	80 - 120
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12	80 - 120

Lab Sample ID: 550-209520-E-1 MSD
Matrix: Water
Analysis Batch: 309930

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	96	M3	20.0	110	E2 M3	mg/L		70	80 - 120	1	20
Fluoride	1.1		4.00	4.78		mg/L		91	80 - 120	6	20
Sulfate	430	E2 M3	20.0	426	E2 M3	mg/L		-12	80 - 120	0	20

Lab Sample ID: MB 550-309960/2
Matrix: Water
Analysis Batch: 309960

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/24/23 12:15	1
Fluoride	ND		0.40	mg/L			10/24/23 12:15	1
Sulfate	ND		2.0	mg/L			10/24/23 12:15	1

Lab Sample ID: LCS 550-309960/5
Matrix: Water
Analysis Batch: 309960

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	19.7		mg/L		98	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	19.2		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-309960/6
Matrix: Water
Analysis Batch: 309960

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	19.4		mg/L		97	90 - 110	1	20
Fluoride	4.00	4.06		mg/L		102	90 - 110	2	20
Sulfate	20.0	19.0		mg/L		95	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209537-B-1 MS
Matrix: Water
Analysis Batch: 309960

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	200	M3	20.0	295	E2 M3	mg/L		477		80 - 120
Fluoride	0.43		4.00	4.17		mg/L		93		80 - 120
Sulfate	81	M3	20.0	208	E2 M3	mg/L		631		80 - 120

Lab Sample ID: 550-209537-B-1 MSD
Matrix: Water
Analysis Batch: 309960

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
	Result	Qualifier		Result	Qualifier							
Chloride	200	M3	20.0	305	E2 M3	mg/L		531		80 - 120	4	20
Fluoride	0.43		4.00	4.20		mg/L		94		80 - 120	1	20
Sulfate	81	M3	20.0	223	E2 M3	mg/L		707		80 - 120	7	20

Lab Sample ID: MB 550-310131/2
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		2.0	mg/L			10/27/23 12:54	1
Fluoride	ND		0.40	mg/L			10/27/23 12:54	1
Sulfate	ND		2.0	mg/L			10/27/23 12:54	1

Lab Sample ID: LCS 550-310131/5
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
Chloride	20.0	19.4		mg/L		97		90 - 110
Fluoride	4.00	4.11		mg/L		103		90 - 110
Sulfate	20.0	19.7		mg/L		98		90 - 110

Lab Sample ID: LCSD 550-310131/6
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	RPD
Chloride	20.0	19.4		mg/L		97		90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102		90 - 110	0	20
Sulfate	20.0	19.7		mg/L		98		90 - 110	0	20

Lab Sample ID: 550-209662-A-2 MS
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Chloride	210	E2 M3	20.0	218	E2 M3	mg/L		44		80 - 120
Fluoride	3.5		4.00	7.43		mg/L		98		80 - 120
Sulfate	280	E2 M3	20.0	283	E2 M3	mg/L		32		80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209662-A-2 MSD
Matrix: Water
Analysis Batch: 310131

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Chloride	210	E2 M3	20.0	218	E2 M3	mg/L		45	80 - 120	0	20
Fluoride	3.5		4.00	7.56		mg/L		101	80 - 120	2	20
Sulfate	280	E2 M3	20.0	283	E2 M3	mg/L		34	80 - 120	0	20

Lab Sample ID: 550-209060-O-1 DU ^10
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier		Result				
Chloride	380		380		mg/L		0.7	20
Fluoride	ND		ND		mg/L		3	20
Sulfate	ND		ND		mg/L		4	20

Lab Sample ID: MB 550-310138/2
Matrix: Water
Analysis Batch: 310138

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Chloride	ND		2.0	mg/L			10/28/23 15:51	1
Fluoride	ND		0.40	mg/L			10/28/23 15:51	1
Sulfate	ND		2.0	mg/L			10/28/23 15:51	1

Lab Sample ID: LCS 550-310138/5
Matrix: Water
Analysis Batch: 310138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
							Added
Chloride	20.0	19.6		mg/L		98	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-310138/6
Matrix: Water
Analysis Batch: 310138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
							Added		
Chloride	20.0	19.6		mg/L		98	90 - 110	0	20
Fluoride	4.00	4.16		mg/L		104	90 - 110	0	20
Sulfate	20.0	19.9		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-209214-E-3 MS ^5
Matrix: Water
Analysis Batch: 310138

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				Limits
Chloride	5300	E2 M3	100	4070	E2 M3	mg/L		-1210	80 - 120
Fluoride	43		20.0	60.0		mg/L		85	80 - 120
Sulfate	8100	E2 M3	100	6210	E2 M3	mg/L		-1887	80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209214-E-3 MSD ^5
Matrix: Water
Analysis Batch: 310138

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	5300	E2 M3	100	4060	E2 M3	mg/L		-1222	80 - 120	0	20
Fluoride	43		20.0	59.9		mg/L		85	80 - 120	0	20
Sulfate	8100	E2 M3	100	6200	E2 M3	mg/L		-1900	80 - 120	0	20

Lab Sample ID: MB 550-310443/2
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			11/02/23 09:54	1
Fluoride	ND		0.40	mg/L			11/02/23 09:54	1
Sulfate	ND		2.0	mg/L			11/02/23 09:54	1

Lab Sample ID: LCS 550-310443/5
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-310443/6
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	1	20
Sulfate	20.0	20.9		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-209471-A-4 MS ^2
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	1800	E2 M3	40.0	1770	E2 M3	mg/L		9	80 - 120
Fluoride	1.1		8.00	8.87		mg/L		98	80 - 120
Sulfate	1300	E2 M3	40.0	1340	E2 M3	mg/L		29	80 - 120

Lab Sample ID: 550-209471-A-4 MSD ^2
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	1800	E2 M3	40.0	1760	E2 M3	mg/L		-5	80 - 120	0	20
Fluoride	1.1		8.00	8.72		mg/L		96	80 - 120	2	20
Sulfate	1300	E2 M3	40.0	1340	E2 M3	mg/L		11	80 - 120	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209876-D-1 MS
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	360	E2 M3	20.0	357	E2 M3	mg/L		-7	80 - 120
Fluoride	ND		4.00	4.27		mg/L		100	80 - 120
Sulfate	320	E2 M3	20.0	322	E2 M3	mg/L		12	80 - 120

Lab Sample ID: 550-209876-D-1 MSD
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	360	E2 M3	20.0	357	E2 M3	mg/L		-6	80 - 120	0	20
Fluoride	ND		4.00	4.33		mg/L		101	80 - 120	1	20
Sulfate	320	E2 M3	20.0	322	E2 M3	mg/L		12	80 - 120	0	20

Lab Sample ID: 550-209471-A-4 DU ^2
Matrix: Water
Analysis Batch: 310443

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	1800	E2 M3	1750	E2	mg/L		0.9	20
Fluoride	1.1		1.04		mg/L		1	20
Sulfate	1300	E2 M3	1320	E2	mg/L		1	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 550-310132/2
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			10/27/23 12:38	1

Lab Sample ID: LCS 550-310132/5
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	4.00	4.19		mg/L		105	80 - 120

Lab Sample ID: LCSD 550-310132/6
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	4.00	4.20		mg/L		105	80 - 120	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-209060-G-2 MS
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	ND		4.00	4.43		mg/L		106	80 - 120

Lab Sample ID: 550-209060-G-2 MSD
Matrix: Water
Analysis Batch: 310132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	ND		4.00	4.44		mg/L		106	80 - 120	0	20

Lab Sample ID: MB 550-310213/2
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			10/30/23 10:46	1

Lab Sample ID: LCS 550-310213/5
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	4.00	4.23		mg/L		106	80 - 120

Lab Sample ID: LCSD 550-310213/6
Matrix: Water
Analysis Batch: 310213

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	4.00	4.23		mg/L		106	80 - 120	0	20

Lab Sample ID: 550-209476-15 MS
Matrix: Water
Analysis Batch: 310213

Client Sample ID: CH-CCR-MW77A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.50		4.00	4.12		mg/L		90	80 - 120

Lab Sample ID: 550-209476-15 MSD
Matrix: Water
Analysis Batch: 310213

Client Sample ID: CH-CCR-MW77A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluoride	0.50		4.00	4.23		mg/L		93	80 - 120	3	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309746/1-A
Matrix: Water
Analysis Batch: 309988

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309746

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/23/23 06:31	10/25/23 17:57	1
Boron	ND		0.050	mg/L		10/23/23 06:31	10/25/23 17:57	1
Calcium	ND		2.0	mg/L		10/23/23 06:31	10/25/23 17:57	1
Iron	ND		0.10	mg/L		10/23/23 06:31	10/25/23 17:57	1
Magnesium	ND		2.0	mg/L		10/23/23 06:31	10/25/23 17:57	1
Manganese	ND		0.010	mg/L		10/23/23 06:31	10/25/23 17:57	1
Potassium	ND		0.50	mg/L		10/23/23 06:31	10/25/23 17:57	1
Sodium	ND		0.50	mg/L		10/23/23 06:31	10/25/23 17:57	1

Lab Sample ID: LCS 550-309746/2-A
Matrix: Water
Analysis Batch: 309988

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309746

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	1.00	0.966		mg/L		97	85 - 115
Boron	1.00	1.03		mg/L		103	85 - 115
Calcium	21.0	20.7		mg/L		98	85 - 115
Iron	1.00	0.820		mg/L		82	85 - 115
Magnesium	21.0	19.8		mg/L		94	85 - 115
Manganese	1.00	0.946		mg/L		95	85 - 115
Potassium	20.0	19.2		mg/L		96	85 - 115
Sodium	20.0	18.5		mg/L		92	85 - 115

Lab Sample ID: LCSD 550-309746/3-A
Matrix: Water
Analysis Batch: 309988

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309746

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Beryllium	1.00	0.966		mg/L		97	85 - 115	0	20
Boron	1.00	1.02		mg/L		102	85 - 115	1	20
Calcium	21.0	20.5		mg/L		98	85 - 115	1	20
Iron	1.00	0.823		mg/L		82	85 - 115	0	20
Magnesium	21.0	20.0		mg/L		95	85 - 115	1	20
Manganese	1.00	0.932		mg/L		93	85 - 115	2	20
Potassium	20.0	19.2		mg/L		96	85 - 115	0	20
Sodium	20.0	18.6		mg/L		93	85 - 115	1	20

Lab Sample ID: 550-209476-1 MS
Matrix: Water
Analysis Batch: 309988

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total/NA
Prep Batch: 309746

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	ND		1.00	1.01		mg/L		101	70 - 130
Boron	3.8		1.00	4.75		mg/L		99	70 - 130
Calcium	580	M3	21.0	574	M3	mg/L		-20	70 - 130
Iron	ND		1.00	0.977		mg/L		98	70 - 130
Magnesium	200		21.0	216	M3	mg/L		75	70 - 130
Manganese	5.1		1.00	6.13	M3	mg/L		104	70 - 130
Potassium	12		20.0	34.5		mg/L		110	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209476-1 MSD
Matrix: Water
Analysis Batch: 309988

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total/NA
Prep Batch: 309746

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130	2	20
Boron	3.8		1.00	4.76		mg/L		101	70 - 130	0	20
Calcium	580	M3	21.0	585	M3	mg/L		34	70 - 130	2	20
Iron	ND		1.00	0.989		mg/L		99	70 - 130	1	20
Magnesium	200		21.0	218	M3	mg/L		82	70 - 130	1	20
Manganese	5.1		1.00	6.16	M3	mg/L		108	70 - 130	1	20
Potassium	12		20.0	35.2		mg/L		114	70 - 130	2	20

Lab Sample ID: MB 550-309748/1-A
Matrix: Water
Analysis Batch: 309919

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309748

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier							
Beryllium	ND		0.0010	mg/L		10/23/23 06:49	10/24/23 18:36		1
Boron	ND		0.050	mg/L		10/23/23 06:49	10/24/23 18:36		1
Calcium	ND		2.0	mg/L		10/23/23 06:49	10/24/23 18:36		1
Iron	ND		0.10	mg/L		10/23/23 06:49	10/24/23 18:36		1
Magnesium	ND		2.0	mg/L		10/23/23 06:49	10/24/23 18:36		1
Manganese	ND		0.010	mg/L		10/23/23 06:49	10/24/23 18:36		1
Potassium	ND		0.50	mg/L		10/23/23 06:49	10/24/23 18:36		1
Sodium	ND	V1	0.50	mg/L		10/23/23 06:49	10/24/23 18:36		1

Lab Sample ID: LCS 550-309748/2-A
Matrix: Water
Analysis Batch: 309919

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309748

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
							Added
Beryllium	1.00	0.983		mg/L		98	85 - 115
Boron	1.00	1.05		mg/L		105	85 - 115
Calcium	21.0	21.0		mg/L		100	85 - 115
Iron	1.00	0.908		mg/L		91	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Manganese	1.00	0.980		mg/L		98	85 - 115
Potassium	20.0	18.8		mg/L		94	85 - 115
Sodium	20.0	20.3	V1	mg/L		102	85 - 115

Lab Sample ID: LCSD 550-309748/3-A
Matrix: Water
Analysis Batch: 309919

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309748

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	RPD
							Added		
Beryllium	1.00	0.964		mg/L		96	85 - 115	2	20
Boron	1.00	1.04		mg/L		104	85 - 115	1	20
Calcium	21.0	20.7		mg/L		99	85 - 115	2	20
Iron	1.00	0.897		mg/L		90	85 - 115	1	20
Magnesium	21.0	20.5		mg/L		98	85 - 115	1	20
Manganese	1.00	0.964		mg/L		96	85 - 115	2	20
Potassium	20.0	18.6		mg/L		93	85 - 115	1	20
Sodium	20.0	20.1	V1	mg/L		101	85 - 115	1	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209344-D-1-B MS
Matrix: Water
Analysis Batch: 309919

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309748

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Beryllium	ND		1.00	0.993		mg/L		99		70 - 130
Boron	ND		1.00	1.10		mg/L		107		70 - 130
Calcium	5.2		21.0	26.4		mg/L		101		70 - 130
Iron	1.7	M1	1.00	2.93		mg/L		124		70 - 130
Magnesium	6.1		21.0	27.1		mg/L		100		70 - 130
Manganese	0.013		1.00	0.987		mg/L		97		70 - 130
Potassium	1.8		20.0	21.7		mg/L		99		70 - 130
Sodium	220	V1	20.0	235	M3 V1	mg/L		73		70 - 130

Lab Sample ID: 550-209344-D-1-C MSD
Matrix: Water
Analysis Batch: 309919

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309748

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Beryllium	ND		1.00	1.02		mg/L		102		70 - 130	2	20
Boron	ND		1.00	1.10		mg/L		108		70 - 130	0	20
Calcium	5.2		21.0	27.1		mg/L		104		70 - 130	3	20
Iron	1.7	M1	1.00	3.02	M1	mg/L		132		70 - 130	3	20
Magnesium	6.1		21.0	27.8		mg/L		103		70 - 130	2	20
Manganese	0.013		1.00	0.987		mg/L		97		70 - 130	0	20
Potassium	1.8		20.0	22.1		mg/L		102		70 - 130	2	20
Sodium	220	V1	20.0	240	M3 V1	mg/L		99		70 - 130	2	20

Lab Sample ID: MB 570-377008/1-A
Matrix: Water
Analysis Batch: 379064

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Lithium	ND		0.050	mg/L		10/25/23 08:52	10/31/23 18:00	1

Lab Sample ID: LCS 570-377008/2-A
Matrix: Water
Analysis Batch: 379064

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Lithium	0.500	0.522		mg/L		104		85 - 115

Lab Sample ID: LCSD 570-377008/3-A
Matrix: Water
Analysis Batch: 379064

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
		Result	Qualifier							
Lithium	0.500	0.522		mg/L		104		85 - 115	0	20

Lab Sample ID: 550-209476-1 MS
Matrix: Water
Analysis Batch: 378187

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Lithium	0.28		0.500	0.793		mg/L		102		80 - 120

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209476-1 MS
Matrix: Water
Analysis Batch: 378187

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.28		0.500	0.793		mg/L		102	80 - 120

Lab Sample ID: 550-209476-1 MSD
Matrix: Water
Analysis Batch: 378187

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.28		0.500	0.830		mg/L		110	80 - 120	5	20
Lithium	0.28		0.500	0.830		mg/L		110	80 - 120	5	20

Lab Sample ID: 550-209476-19 MS
Matrix: Water
Analysis Batch: 378187

Client Sample ID: CH-CCR-W303-1023
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.48		0.500	1.05		mg/L		113	80 - 120

Lab Sample ID: 550-209476-19 MSD
Matrix: Water
Analysis Batch: 378187

Client Sample ID: CH-CCR-W303-1023
Prep Type: Total Recoverable
Prep Batch: 377008

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lithium	0.48		0.500	1.04		mg/L		113	80 - 120	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309752/1-A
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309752

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/23/23 09:30	10/24/23 15:56	1
Arsenic	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Barium	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Cadmium	ND		0.00010	mg/L		10/23/23 09:30	10/24/23 15:56	1
Chromium	ND		0.0010	mg/L		10/23/23 09:30	10/24/23 15:56	1
Cobalt	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Lead	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Molybdenum	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Selenium	ND		0.00050	mg/L		10/23/23 09:30	10/24/23 15:56	1
Thallium	ND		0.00010	mg/L		10/23/23 09:30	10/24/23 15:56	1

Lab Sample ID: LCS 550-309752/2-A
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.100	0.0994		mg/L		99	85 - 115
Arsenic	0.100	0.0970		mg/L		97	85 - 115
Barium	0.100	0.116	L3	mg/L		116	85 - 115

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309752/2-A
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	0.100	0.0982		mg/L		98	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.104		mg/L		104	85 - 115
Lead	0.100	0.103		mg/L		103	85 - 115
Molybdenum	0.100	0.0969		mg/L		97	85 - 115
Selenium	0.100	0.0954		mg/L		95	85 - 115
Thallium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-309752/3-A
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	0.100	0.0999		mg/L		100	85 - 115	1	20
Arsenic	0.100	0.0981		mg/L		98	85 - 115	1	20
Barium	0.100	0.117	L3	mg/L		117	85 - 115	1	20
Cadmium	0.100	0.0989		mg/L		99	85 - 115	1	20
Chromium	0.100	0.102		mg/L		102	85 - 115	1	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	1	20
Lead	0.100	0.0998		mg/L		100	85 - 115	3	20
Molybdenum	0.100	0.0988		mg/L		99	85 - 115	2	20
Selenium	0.100	0.0964		mg/L		96	85 - 115	1	20
Thallium	0.100	0.101		mg/L		101	85 - 115	4	20

Lab Sample ID: 550-209464-A-1-A MS
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		0.100	0.104		mg/L		104	70 - 130
Arsenic	0.0040		0.100	0.103		mg/L		99	70 - 130
Barium	0.0088	L3	0.100	0.128		mg/L		119	70 - 130
Cadmium	ND		0.100	0.0989		mg/L		99	70 - 130
Chromium	0.0072		0.100	0.105		mg/L		98	70 - 130
Cobalt	ND		0.100	0.100		mg/L		100	70 - 130
Lead	ND		0.100	0.0960		mg/L		96	70 - 130
Molybdenum	0.0059		0.100	0.109		mg/L		103	70 - 130
Selenium	0.00058		0.100	0.0979		mg/L		97	70 - 130
Thallium	ND		0.100	0.0984		mg/L		98	70 - 130

Lab Sample ID: 550-209464-A-1-B MSD
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Antimony	ND		0.100	0.103		mg/L		103	70 - 130	1	20
Arsenic	0.0040		0.100	0.101		mg/L		97	70 - 130	2	20
Barium	0.0088	L3	0.100	0.126		mg/L		117	70 - 130	2	20
Cadmium	ND		0.100	0.0973		mg/L		97	70 - 130	2	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209464-A-1-B MSD
Matrix: Water
Analysis Batch: 309934

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309752

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Chromium	0.0072		0.100	0.103		mg/L		96	70 - 130	1	20
Cobalt	ND		0.100	0.0991		mg/L		99	70 - 130	1	20
Lead	ND		0.100	0.0986		mg/L		99	70 - 130	3	20
Molybdenum	0.0059		0.100	0.108		mg/L		102	70 - 130	1	20
Selenium	0.00058		0.100	0.0946		mg/L		94	70 - 130	3	20
Thallium	ND		0.100	0.0968		mg/L		97	70 - 130	2	20

Lab Sample ID: MB 550-309755/1-A
Matrix: Water
Analysis Batch: 309935

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309755

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/23/23 09:48	10/24/23 17:14	1
Arsenic	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Barium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Cadmium	ND		0.00010	mg/L		10/23/23 09:48	10/24/23 17:14	1
Chromium	ND		0.0010	mg/L		10/23/23 09:48	10/24/23 17:14	1
Cobalt	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Lead	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Molybdenum	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Selenium	ND		0.00050	mg/L		10/23/23 09:48	10/24/23 17:14	1
Thallium	ND		0.00010	mg/L		10/23/23 09:48	10/24/23 17:14	1

Lab Sample ID: LCS 550-309755/2-A
Matrix: Water
Analysis Batch: 309935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309755

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Antimony	0.100	0.0998		mg/L		100	85 - 115
Arsenic	0.100	0.0956		mg/L		96	85 - 115
Barium	0.100	0.116	L3	mg/L		116	85 - 115
Cadmium	0.100	0.0982		mg/L		98	85 - 115
Chromium	0.100	0.0993		mg/L		99	85 - 115
Cobalt	0.100	0.104		mg/L		104	85 - 115
Lead	0.100	0.101		mg/L		101	85 - 115
Molybdenum	0.100	0.0969		mg/L		97	85 - 115
Selenium	0.100	0.0929		mg/L		93	85 - 115
Thallium	0.100	0.0987		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-309755/3-A
Matrix: Water
Analysis Batch: 309935

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309755

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Antimony	0.100	0.0999		mg/L		100	85 - 115	0	20
Arsenic	0.100	0.0953		mg/L		95	85 - 115	0	20
Barium	0.100	0.116	L3	mg/L		116	85 - 115	0	20
Cadmium	0.100	0.0973		mg/L		97	85 - 115	1	20
Chromium	0.100	0.0997		mg/L		100	85 - 115	0	20

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-309755/3-A
Matrix: Water
Analysis Batch: 309935

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309755

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Cobalt	0.100	0.104		mg/L		104	85 - 115	0	20	
Lead	0.100	0.0989		mg/L		99	85 - 115	2	20	
Molybdenum	0.100	0.0972		mg/L		97	85 - 115	0	20	
Selenium	0.100	0.0934		mg/L		93	85 - 115	0	20	
Thallium	0.100	0.100		mg/L		100	85 - 115	1	20	

Lab Sample ID: 550-209476-3 MS
Matrix: Water
Analysis Batch: 309935

Client Sample ID: CH-CCR-MW69A-1023
Prep Type: Total/NA
Prep Batch: 309755

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Antimony	ND		0.100	0.0930		mg/L		93	70 - 130			
Arsenic	0.0025		0.100	0.0944		mg/L		92	70 - 130			
Barium	0.019	L3	0.100	0.124		mg/L		106	70 - 130			
Cadmium	ND		0.100	0.0860		mg/L		86	70 - 130			
Chromium	ND		0.100	0.0957		mg/L		92	70 - 130			
Cobalt	0.015		0.100	0.108		mg/L		93	70 - 130			
Lead	ND		0.100	0.0889		mg/L		89	70 - 130			
Molybdenum	0.029	T5	0.100	0.119		mg/L		90	70 - 130			
Selenium	ND		0.100	0.0851		mg/L		85	70 - 130			
Thallium	ND		0.100	0.0869		mg/L		87	70 - 130			

Lab Sample ID: 550-209476-3 MSD
Matrix: Water
Analysis Batch: 309935

Client Sample ID: CH-CCR-MW69A-1023
Prep Type: Total/NA
Prep Batch: 309755

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Antimony	ND		0.100	0.0968		mg/L		97	70 - 130	4	20	
Arsenic	0.0025		0.100	0.0950		mg/L		92	70 - 130	1	20	
Barium	0.019	L3	0.100	0.131		mg/L		112	70 - 130	5	20	
Cadmium	ND		0.100	0.0893		mg/L		89	70 - 130	4	20	
Chromium	ND		0.100	0.0955		mg/L		91	70 - 130	0	20	
Cobalt	0.015		0.100	0.107		mg/L		92	70 - 130	1	20	
Lead	ND		0.100	0.0909		mg/L		91	70 - 130	2	20	
Molybdenum	0.029	T5	0.100	0.122		mg/L		93	70 - 130	3	20	
Selenium	ND		0.100	0.0898		mg/L		90	70 - 130	5	20	
Thallium	ND		0.100	0.0889		mg/L		89	70 - 130	2	20	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-309852/1-A
Matrix: Water
Analysis Batch: 309876

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309852

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 550-309852/2-A
Matrix: Water
Analysis Batch: 309876

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309852

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00469		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-309852/3-A
Matrix: Water
Analysis Batch: 309876

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309852

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00478		mg/L		96	85 - 115	2	20

Lab Sample ID: 550-209436-A-1-C MSD
Matrix: Water
Analysis Batch: 309876

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 309852

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00521		mg/L		104	70 - 130	4	20

Lab Sample ID: 550-209476-13 MS
Matrix: Water
Analysis Batch: 309876

Client Sample ID: CH-CCR-MW74M-1023
Prep Type: Total/NA
Prep Batch: 309852

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00570		mg/L		114	70 - 130

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310263/110
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 13:14	1

Lab Sample ID: MB 550-310263/159
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			10/30/23 14:33	1

Lab Sample ID: LCS 550-310263/111
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.990		mg/L		99	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-310263/160
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.916		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-310263/112
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.02		mg/L		102	90 - 110	3	20

Lab Sample ID: LCSD 550-310263/161
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.936		mg/L		94	90 - 110	2	20

Lab Sample ID: 550-209471-B-1 MS
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.37		1.00	1.40		mg/L		103	90 - 110

Lab Sample ID: 550-209471-B-1 MSD
Matrix: Water
Analysis Batch: 310263

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.37		1.00	1.36		mg/L		99	90 - 110	3	20

Lab Sample ID: 550-209476-23 MS
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-W314-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	ND		1.00	1.00		mg/L		100	90 - 110

Lab Sample ID: 550-209476-23 MSD
Matrix: Water
Analysis Batch: 310263

Client Sample ID: CH-CCR-W314-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	ND		1.00	0.932		mg/L		93	90 - 110	7	20

Lab Sample ID: MB 550-310375/60
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			11/01/23 13:22	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: LCS 550-310375/61
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.980		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310375/62
Matrix: Water
Analysis Batch: 310375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.993		mg/L		99	90 - 110	1	20

Lab Sample ID: 550-209476-3 MS
Matrix: Water
Analysis Batch: 310375

Client Sample ID: CH-CCR-MW69A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.055		1.00	1.11		mg/L		106	90 - 110

Lab Sample ID: 550-209476-3 MSD
Matrix: Water
Analysis Batch: 310375

Client Sample ID: CH-CCR-MW69A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.055		1.00	1.03		mg/L		97	90 - 110	8	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-631180/22
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/25/23 12:52	1

Lab Sample ID: MB 280-631180/60
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/25/23 14:08	1

Lab Sample ID: LCS 280-631180/21
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.01		mg/L		100	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 280-631180/59
Matrix: Water
Analysis Batch: 631180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.98		mg/L		100	90 - 110

Lab Sample ID: 550-209476-1 MS
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	3.97		mg/L		99	90 - 110

Lab Sample ID: 550-209476-1 MSD
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.98		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-209476-15 MS
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-MW77A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	4.02		mg/L		99	90 - 110

Lab Sample ID: 550-209476-15 MSD
Matrix: Water
Analysis Batch: 631180

Client Sample ID: CH-CCR-MW77A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.97		mg/L		98	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-309886/4
Matrix: Water
Analysis Batch: 309886

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			10/24/23 14:15	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			10/24/23 14:15	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/24/23 14:15	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			10/24/23 14:15	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			10/24/23 14:15	1

Lab Sample ID: LCS 550-309886/3
Matrix: Water
Analysis Batch: 309886

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	247		mg/L		99	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 550-309886/10
Matrix: Water
Analysis Batch: 309886

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110	2	20

Lab Sample ID: 550-209476-3 DU
Matrix: Water
Analysis Batch: 309886

Client Sample ID: CH-CCR-MW69A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		142		mg/L		0.5	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	140		142		mg/L		0.5	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-309802/1
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/23/23 15:06	1

Lab Sample ID: LCS 550-309802/2
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	998		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309802/3
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	992		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-209471-B-4 DU
Matrix: Water
Analysis Batch: 309802

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000		11900		mg/L		1	10

Lab Sample ID: MB 550-309843/1
Matrix: Water
Analysis Batch: 309843

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/24/23 11:20	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-309843/2
Matrix: Water
Analysis Batch: 309843

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-309843/3
Matrix: Water
Analysis Batch: 309843

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	988		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-209453-E-1 DU
Matrix: Water
Analysis Batch: 309843

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1250		mg/L		1	10

Lab Sample ID: 550-209476-21 DU
Matrix: Water
Analysis Batch: 309843

Client Sample ID: CH-CCR-W306-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	18000		18600		mg/L		0.5	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-310003/1
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310003/13
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310003/25
Matrix: Water
Analysis Batch: 310003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-209476-1 DU
Matrix: Water
Analysis Batch: 310003

Client Sample ID: CH-CCR-M53A-1023
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				
pH	7.5	H5	7.5		SU		0.1	5
Temperature	6.9	H5 T5	6.8		Degrees C		1	

Lab Sample ID: 550-209476-21 DU
Matrix: Water
Analysis Batch: 310003

Client Sample ID: CH-CCR-W306-1023
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD
	Result	Qualifier	Result	Qualifier				
pH	7.9	H5	7.9		SU		0.1	5
Temperature	8.6	H5 T5	8.6		Degrees C		0	

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310716/3
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Dissolved Organic Carbon	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/07/23 22:41	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/07/23 22:41	1

Lab Sample ID: LCS 550-310716/5
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon - Duplicate	20.0	19.3		mg/L		97	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310716/30
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	20.0	19.0		mg/L		95	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	19.3		mg/L		96	90 - 110	1	20

Lab Sample ID: 550-209471-G-12 MSD
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
Dissolved Organic Carbon	2.7		20.0	21.4		mg/L		93	90 - 110	6	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209471-G-12 MSD
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate	2.7		20.0	21.4		mg/L		93	90 - 110	6	20
Dissolved Organic Carbon - Quad	2.7		20.0	21.4		mg/L		93	90 - 110	6	20

Lab Sample ID: 550-209471-I-12 MS
Matrix: Water
Analysis Batch: 310716

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	2.7		20.0	22.8		mg/L		100	90 - 110
Dissolved Organic Carbon - Duplicate	2.7		20.0	22.8		mg/L		100	90 - 110
Dissolved Organic Carbon - Quad	2.7		20.0	22.8		mg/L		100	90 - 110

Lab Sample ID: MB 550-310867/3
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			11/08/23 19:23	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/08/23 19:23	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/08/23 19:23	1

Lab Sample ID: LCS 550-310867/5
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-310867/6
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		93	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-209476-9 MS
Matrix: Water
Analysis Batch: 310867

Client Sample ID: CH-CCR-MW72M-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	0.55	M2	20.0	18.1	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Duplicate	0.56	M2	20.0	18.1	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Quad	0.55	M2	20.0	18.1	M2	mg/L		88	90 - 110

Lab Sample ID: 550-209476-9 MSD
Matrix: Water
Analysis Batch: 310867

Client Sample ID: CH-CCR-MW72M-1023
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.55	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	0.56	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20
Dissolved Organic Carbon - Quad	0.55	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 309841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	300.0	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	300.0	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	300.0	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	300.0	
MB 550-309841/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309841/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309841/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209146-A-19 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-209146-A-19 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 309850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	300.0	
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	300.0	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	300.0	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	300.0	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	300.0	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	300.0	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	300.0	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	300.0	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	300.0	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	300.0	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	300.0	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	300.0	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	300.0	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	300.0	
MB 550-309850/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309850/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309850/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209102-A-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-209102-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 309930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	300.0	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	300.0	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	300.0	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	300.0	
MB 550-309930/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309930/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309930/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209520-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209520-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 309960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	300.0	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	300.0	
MB 550-309960/2	Method Blank	Total/NA	Water	300.0	
LCS 550-309960/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-309960/6	Lab Control Sample Dup	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC (Continued)

Analysis Batch: 309960 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209537-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209537-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-310131/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310131/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310131/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209662-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-209662-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-310132/2	Method Blank	Total/NA	Water	9056A	
LCS 550-310132/5	Lab Control Sample	Total/NA	Water	9056A	
LCSD 550-310132/6	Lab Control Sample Dup	Total/NA	Water	9056A	
550-209060-G-2 MS	Matrix Spike	Total/NA	Water	9056A	
550-209060-G-2 MSD	Matrix Spike Duplicate	Total/NA	Water	9056A	
550-209060-O-1 DU ^10	Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	300.0	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	9056A	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	300.0	
MB 550-310138/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310138/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310138/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209214-E-3 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-209214-E-3 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 310213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	9056A	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	9056A	
MB 550-310213/2	Method Blank	Total/NA	Water	9056A	
LCS 550-310213/5	Lab Control Sample	Total/NA	Water	9056A	
LCSD 550-310213/6	Lab Control Sample Dup	Total/NA	Water	9056A	
550-209476-15 MS	CH-CCR-MW77A-1023	Total/NA	Water	9056A	
550-209476-15 MSD	CH-CCR-MW77A-1023	Total/NA	Water	9056A	

Analysis Batch: 310443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	9056A	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	9056A	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	9056A	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	9056A	
MB 550-310443/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310443/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-310443/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209471-A-4 MS ^2	Matrix Spike	Total/NA	Water	300.0	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC (Continued)

Analysis Batch: 310443 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209471-A-4 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-209876-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-209876-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-209471-A-4 DU ^2	Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	200.7	
550-209476-2	CH-CCR-M53A-1023	Dissolved	Water	200.7	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	200.7	
550-209476-4	CH-CCR-MW69A-1023	Dissolved	Water	200.7	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	200.7	
550-209476-6	CH-CCR-MW70M-1023	Dissolved	Water	200.7	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	200.7	
550-209476-8	CH-CCR-MW71A-1023	Dissolved	Water	200.7	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	200.7	
550-209476-10	CH-CCR-MW72M-1023	Dissolved	Water	200.7	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	200.7	
550-209476-12	CH-CCR-MW73A-1023	Dissolved	Water	200.7	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	200.7	
550-209476-14	CH-CCR-MW74M-1023	Dissolved	Water	200.7	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	200.7	
550-209476-16	CH-CCR-MW77A-1023	Dissolved	Water	200.7	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	200.7	
550-209476-18	CH-CCR-W301-1023	Dissolved	Water	200.7	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	200.7	
550-209476-20	CH-CCR-W303-1023	Dissolved	Water	200.7	
MB 550-309746/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309746/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309746/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209476-1 MS	CH-CCR-M53A-1023	Total/NA	Water	200.7	
550-209476-1 MSD	CH-CCR-M53A-1023	Total/NA	Water	200.7	

Prep Batch: 309748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	200.7	
550-209476-22	CH-CCR-W306-1023	Dissolved	Water	200.7	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	200.7	
550-209476-24	CH-CCR-W314-1023	Dissolved	Water	200.7	
MB 550-309748/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309748/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309748/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209344-D-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-209344-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 309752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	200.8	
550-209476-22	CH-CCR-W306-1023	Dissolved	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309752 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	200.8	
550-209476-24	CH-CCR-W314-1023	Dissolved	Water	200.8	
MB 550-309752/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309752/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309752/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209464-A-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-209464-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 309755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	200.8	
550-209476-2	CH-CCR-M53A-1023	Dissolved	Water	200.8	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	200.8	
550-209476-4	CH-CCR-MW69A-1023	Dissolved	Water	200.8	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	200.8	
550-209476-6	CH-CCR-MW70M-1023	Dissolved	Water	200.8	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	200.8	
550-209476-8	CH-CCR-MW71A-1023	Dissolved	Water	200.8	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	200.8	
550-209476-10	CH-CCR-MW72M-1023	Dissolved	Water	200.8	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	200.8	
550-209476-12	CH-CCR-MW73A-1023	Dissolved	Water	200.8	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	200.8	
550-209476-14	CH-CCR-MW74M-1023	Dissolved	Water	200.8	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	200.8	
550-209476-16	CH-CCR-MW77A-1023	Dissolved	Water	200.8	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	200.8	
550-209476-18	CH-CCR-W301-1023	Dissolved	Water	200.8	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	200.8	
550-209476-20	CH-CCR-W303-1023	Dissolved	Water	200.8	
MB 550-309755/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-309755/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309755/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209476-3 MS	CH-CCR-MW69A-1023	Total/NA	Water	200.8	
550-209476-3 MSD	CH-CCR-MW69A-1023	Total/NA	Water	200.8	

Prep Batch: 309852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	245.1	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	245.1	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	245.1	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	245.1	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	245.1	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	245.1	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	245.1	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	245.1	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	245.1	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	245.1	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	245.1	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	245.1	
MB 550-309852/1-A	Method Blank	Total/NA	Water	245.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309852 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-309852/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-309852/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209436-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
550-209476-13 MS	CH-CCR-MW74M-1023	Total/NA	Water	245.1	

Analysis Batch: 309876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	245.1	309852
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	245.1	309852
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	245.1	309852
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	245.1	309852
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	245.1	309852
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	245.1	309852
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	245.1	309852
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	245.1	309852
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	245.1	309852
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	245.1	309852
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	245.1	309852
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	245.1	309852
MB 550-309852/1-A	Method Blank	Total/NA	Water	245.1	309852
LCS 550-309852/2-A	Lab Control Sample	Total/NA	Water	245.1	309852
LCSD 550-309852/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	309852
550-209436-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	309852
550-209476-13 MS	CH-CCR-MW74M-1023	Total/NA	Water	245.1	309852

Analysis Batch: 309919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	200.7 Rev 4.4	309748
550-209476-22	CH-CCR-W306-1023	Dissolved	Water	200.7	309748
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	200.7 Rev 4.4	309748
550-209476-24	CH-CCR-W314-1023	Dissolved	Water	200.7	309748
MB 550-309748/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309748
LCS 550-309748/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309748
LCSD 550-309748/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309748
550-209344-D-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	309748
550-209344-D-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	309748

Analysis Batch: 309934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	200.8 LL	309752
550-209476-22	CH-CCR-W306-1023	Dissolved	Water	200.8 LL	309752
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	200.8 LL	309752
550-209476-24	CH-CCR-W314-1023	Dissolved	Water	200.8 LL	309752
MB 550-309752/1-A	Method Blank	Total/NA	Water	200.8 LL	309752
LCS 550-309752/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309752
LCSD 550-309752/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309752
550-209464-A-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	309752
550-209464-A-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	309752

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 309935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	200.8 LL	309755
550-209476-2	CH-CCR-M53A-1023	Dissolved	Water	200.8 LL	309755
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	200.8 LL	309755
550-209476-4	CH-CCR-MW69A-1023	Dissolved	Water	200.8 LL	309755
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	200.8 LL	309755
550-209476-6	CH-CCR-MW70M-1023	Dissolved	Water	200.8 LL	309755
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	200.8 LL	309755
550-209476-8	CH-CCR-MW71A-1023	Dissolved	Water	200.8 LL	309755
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	200.8 LL	309755
550-209476-10	CH-CCR-MW72M-1023	Dissolved	Water	200.8 LL	309755
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	200.8 LL	309755
550-209476-12	CH-CCR-MW73A-1023	Dissolved	Water	200.8 LL	309755
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	200.8 LL	309755
550-209476-14	CH-CCR-MW74M-1023	Dissolved	Water	200.8 LL	309755
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	200.8 LL	309755
550-209476-16	CH-CCR-MW77A-1023	Dissolved	Water	200.8 LL	309755
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	200.8 LL	309755
550-209476-18	CH-CCR-W301-1023	Dissolved	Water	200.8 LL	309755
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	200.8 LL	309755
550-209476-20	CH-CCR-W303-1023	Dissolved	Water	200.8 LL	309755
MB 550-309755/1-A	Method Blank	Total/NA	Water	200.8 LL	309755
LCS 550-309755/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309755
LCSD 550-309755/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309755
550-209476-3 MS	CH-CCR-MW69A-1023	Total/NA	Water	200.8 LL	309755
550-209476-3 MSD	CH-CCR-MW69A-1023	Total/NA	Water	200.8 LL	309755

Analysis Batch: 309988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-2	CH-CCR-M53A-1023	Dissolved	Water	200.7	309746
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-4	CH-CCR-MW69A-1023	Dissolved	Water	200.7	309746
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-6	CH-CCR-MW70M-1023	Dissolved	Water	200.7	309746
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-8	CH-CCR-MW71A-1023	Dissolved	Water	200.7	309746
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-12	CH-CCR-MW73A-1023	Dissolved	Water	200.7	309746
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-14	CH-CCR-MW74M-1023	Dissolved	Water	200.7	309746
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-16	CH-CCR-MW77A-1023	Dissolved	Water	200.7	309746
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-18	CH-CCR-W301-1023	Dissolved	Water	200.7	309746
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-20	CH-CCR-W303-1023	Dissolved	Water	200.7	309746
MB 550-309746/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309746
LCS 550-309746/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309746
LCSD 550-309746/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-1 MS	CH-CCR-M53A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-1 MSD	CH-CCR-M53A-1023	Total/NA	Water	200.7 Rev 4.4	309746

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 310148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-10	CH-CCR-MW72M-1023	Dissolved	Water	200.7	309746
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	200.7 Rev 4.4	309746
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	200.7 Rev 4.4	309746

Analysis Batch: 310150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	200.7 Rev 4.4	309748

Analysis Batch: 310222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	200.7 Rev 4.4	309746

Prep Batch: 377008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total Recoverable	Water	200.7	
550-209476-3	CH-CCR-MW69A-1023	Total Recoverable	Water	200.7	
550-209476-5	CH-CCR-MW70M-1023	Total Recoverable	Water	200.7	
550-209476-7	CH-CCR-MW71A-1023	Total Recoverable	Water	200.7	
550-209476-9	CH-CCR-MW72M-1023	Total Recoverable	Water	200.7	
550-209476-11	CH-CCR-MW73A-1023	Total Recoverable	Water	200.7	
550-209476-13	CH-CCR-MW74M-1023	Total Recoverable	Water	200.7	
550-209476-15	CH-CCR-MW77A-1023	Total Recoverable	Water	200.7	
550-209476-17	CH-CCR-W301-1023	Total Recoverable	Water	200.7	
550-209476-19	CH-CCR-W303-1023	Total Recoverable	Water	200.7	
550-209476-21	CH-CCR-W306-1023	Total Recoverable	Water	200.7	
550-209476-23	CH-CCR-W314-1023	Total Recoverable	Water	200.7	
MB 570-377008/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-377008/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-377008/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
550-209476-1 MS	CH-CCR-M53A-1023	Total Recoverable	Water	200.7	
550-209476-1 MSD	CH-CCR-M53A-1023	Total Recoverable	Water	200.7	
550-209476-19 MS	CH-CCR-W303-1023	Total Recoverable	Water	200.7	
550-209476-19 MSD	CH-CCR-W303-1023	Total Recoverable	Water	200.7	

Analysis Batch: 378187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-3	CH-CCR-MW69A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-5	CH-CCR-MW70M-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-7	CH-CCR-MW71A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-11	CH-CCR-MW73A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-13	CH-CCR-MW74M-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-15	CH-CCR-MW77A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-17	CH-CCR-W301-1023	Total Recoverable	Water	200.7 Rev 4.4	377008

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 378187 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-19	CH-CCR-W303-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-21	CH-CCR-W306-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-23	CH-CCR-W314-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-1 MS	CH-CCR-M53A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-1 MSD	CH-CCR-M53A-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-19 MS	CH-CCR-W303-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
550-209476-19 MSD	CH-CCR-W303-1023	Total Recoverable	Water	200.7 Rev 4.4	377008

Analysis Batch: 379064

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-9	CH-CCR-MW72M-1023	Total Recoverable	Water	200.7 Rev 4.4	377008
MB 570-377008/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	377008
LCS 570-377008/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	377008
LCSD 570-377008/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	377008

General Chemistry

Analysis Batch: 309802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	SM 2540C	
MB 550-309802/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309802/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309802/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209471-B-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 309843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	SM 2540C	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	SM 2540C	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	SM 2540C	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	SM 2540C	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	SM 2540C	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	SM 2540C	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	SM 2540C	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	SM 2540C	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	SM 2540C	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	SM 2540C	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	SM 2540C	
MB 550-309843/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-309843/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-309843/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209453-E-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-209476-21 DU	CH-CCR-W306-1023	Total/NA	Water	SM 2540C	

Analysis Batch: 309886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	SM 2320B	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	SM 2320B	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	SM 2320B	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	SM 2320B	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 309886 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	SM 2320B	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	SM 2320B	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	SM 2320B	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	SM 2320B	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	SM 2320B	
MB 550-309886/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-309886/3	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-309886/10	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209476-3 DU	CH-CCR-MW69A-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 310003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310003/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209476-1 DU	CH-CCR-M53A-1023	Total/NA	Water	SM 4500 H+ B	
550-209476-21 DU	CH-CCR-W306-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 310263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	350.1	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	350.1	
MB 550-310263/110	Method Blank	Total/NA	Water	350.1	
MB 550-310263/159	Method Blank	Total/NA	Water	350.1	
LCS 550-310263/111	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-310263/160	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310263/112	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-310263/161	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209471-B-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-209471-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-209476-23 MS	CH-CCR-W314-1023	Total/NA	Water	350.1	
550-209476-23 MSD	CH-CCR-W314-1023	Total/NA	Water	350.1	

Analysis Batch: 310375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	350.1	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	350.1	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	350.1	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	350.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 310375 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	350.1	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	350.1	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	350.1	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	350.1	
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	350.1	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	350.1	
MB 550-310375/60	Method Blank	Total/NA	Water	350.1	
LCS 550-310375/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310375/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209476-3 MS	CH-CCR-MW69A-1023	Total/NA	Water	350.1	
550-209476-3 MSD	CH-CCR-MW69A-1023	Total/NA	Water	350.1	

Analysis Batch: 310716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Dissolved	Water	SM 5310B	
550-209476-3	CH-CCR-MW69A-1023	Dissolved	Water	SM 5310B	
550-209476-7	CH-CCR-MW71A-1023	Dissolved	Water	SM 5310B	
550-209476-11	CH-CCR-MW73A-1023	Dissolved	Water	SM 5310B	
550-209476-13	CH-CCR-MW74M-1023	Dissolved	Water	SM 5310B	
550-209476-15	CH-CCR-MW77A-1023	Dissolved	Water	SM 5310B	
550-209476-17	CH-CCR-W301-1023	Dissolved	Water	SM 5310B	
550-209476-19	CH-CCR-W303-1023	Dissolved	Water	SM 5310B	
550-209476-21	CH-CCR-W306-1023	Dissolved	Water	SM 5310B	
550-209476-23	CH-CCR-W314-1023	Dissolved	Water	SM 5310B	
MB 550-310716/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310716/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310716/30	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209471-G-12 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209471-I-12 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 310867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-5	CH-CCR-MW70M-1023	Dissolved	Water	SM 5310B	
550-209476-9	CH-CCR-MW72M-1023	Dissolved	Water	SM 5310B	
MB 550-310867/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310867/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310867/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209476-9 MS	CH-CCR-MW72M-1023	Dissolved	Water	SM 5310B	
550-209476-9 MSD	CH-CCR-MW72M-1023	Dissolved	Water	SM 5310B	

Analysis Batch: 631180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-1	CH-CCR-M53A-1023	Total/NA	Water	353.2	
550-209476-3	CH-CCR-MW69A-1023	Total/NA	Water	353.2	
550-209476-5	CH-CCR-MW70M-1023	Total/NA	Water	353.2	
550-209476-7	CH-CCR-MW71A-1023	Total/NA	Water	353.2	
550-209476-9	CH-CCR-MW72M-1023	Total/NA	Water	353.2	
550-209476-11	CH-CCR-MW73A-1023	Total/NA	Water	353.2	
550-209476-13	CH-CCR-MW74M-1023	Total/NA	Water	353.2	
550-209476-15	CH-CCR-MW77A-1023	Total/NA	Water	353.2	
550-209476-17	CH-CCR-W301-1023	Total/NA	Water	353.2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 631180 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209476-19	CH-CCR-W303-1023	Total/NA	Water	353.2	
550-209476-21	CH-CCR-W306-1023	Total/NA	Water	353.2	
550-209476-23	CH-CCR-W314-1023	Total/NA	Water	353.2	
MB 280-631180/22	Method Blank	Total/NA	Water	353.2	
MB 280-631180/60	Method Blank	Total/NA	Water	353.2	
LCS 280-631180/21	Lab Control Sample	Total/NA	Water	353.2	
LCS 280-631180/59	Lab Control Sample	Total/NA	Water	353.2	
550-209476-1 MS	CH-CCR-M53A-1023	Total/NA	Water	353.2	
550-209476-1 MSD	CH-CCR-M53A-1023	Total/NA	Water	353.2	
550-209476-15 MS	CH-CCR-MW77A-1023	Total/NA	Water	353.2	
550-209476-15 MSD	CH-CCR-MW77A-1023	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-1

Date Collected: 10/19/23 11:48

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 03:13
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 03:31
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 20:20
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 09:56
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:11
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:43
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:15
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 14:54
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:30
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:46
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 01:37

Client Sample ID: CH-CCR-M53A-1023

Lab Sample ID: 550-209476-2

Date Collected: 10/19/23 11:48

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:14
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:46

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-3

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 03:50
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 04:08
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:04
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:17
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 19:38
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:39
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:17

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-3

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:53
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:42
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 15:35
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:48
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 02:00

Client Sample ID: CH-CCR-MW69A-1023

Lab Sample ID: 550-209476-4

Date Collected: 10/19/23 09:11

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:20
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:41

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-5

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 04:27
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 04:45
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:06
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:23
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 19:41
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:48
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:19
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:58
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:44
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 15:49
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:50
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 22:03

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW70M-1023

Lab Sample ID: 550-209476-6

Date Collected: 10/18/23 15:43

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:26
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:50

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-7

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 05:03
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/22/23 05:22
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 20:39
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:08
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:28
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 19:43
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:52
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:21
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:59
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 13:58
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 15:56
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:51
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 02:44

Client Sample ID: CH-CCR-MW71A-1023

Lab Sample ID: 550-209476-8

Date Collected: 10/18/23 13:12

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:31
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:54

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW72M-1023
Date Collected: 10/18/23 14:02
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209476-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 05:40
Total/NA	Analysis	300.0		20	309850	MMH	EET PHX	10/22/23 06:54
Total/NA	Analysis	300.0		200	310138	SMA	EET PHX	10/28/23 21:03
Total/NA	Analysis	9056A		200	310138	SMA	EET PHX	10/28/23 21:03
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		20	379064	P1R	EET CAL 4	10/31/23 18:18
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 19:46
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		20	310222	GLW	EET PHX	10/30/23 14:56
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:56
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:23
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:01
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:00
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:02
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:53
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 21:02

Client Sample ID: CH-CCR-MW72M-1023
Date Collected: 10/18/23 14:02
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209476-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		10	310148	GLW	EET PHX	10/26/23 19:49
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 17:58

Client Sample ID: CH-CCR-MW73A-1023
Date Collected: 10/18/23 11:00
Date Received: 10/20/23 15:01

Lab Sample ID: 550-209476-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 07:12
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 07:31
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 20:57
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:13
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:45

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-11

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 19:58
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:06
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:25
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:02
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:02
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:06
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:55
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 04:12

Client Sample ID: CH-CCR-MW73A-1023

Lab Sample ID: 550-209476-12

Date Collected: 10/18/23 11:00

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:48
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:08

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-13

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309850	MMH	EET PHX	10/22/23 07:49
Total/NA	Analysis	300.0		50	309850	MMH	EET PHX	10/22/23 08:08
Total/NA	Analysis	9056A		2	310443	SMA	EET PHX	11/02/23 21:16
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:16
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:51
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 20:01
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:10
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:32
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:04
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:04
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:13

Eurofins Phoenix

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-13

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:56
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 04:33

Client Sample ID: CH-CCR-MW74M-1023

Lab Sample ID: 550-209476-14

Date Collected: 10/18/23 10:00

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 18:54
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:12

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-15

Date Collected: 10/17/23 14:54

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309841	MMH	EET PHX	10/22/23 07:30
Total/NA	Analysis	300.0		50	309841	MMH	EET PHX	10/22/23 09:22
Total/NA	Analysis	9056A		1	310213	MMH	EET PHX	10/30/23 12:18
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:18
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 18:57
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 20:04
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:14
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:36
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:05
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:10
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:19
Total/NA	Analysis	SM 2540C		1	309802	KMG	EET PHX	10/23/23 15:06 - 10/27/23 12:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:57
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 04:55

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW77A-1023

Lab Sample ID: 550-209476-16

Date Collected: 10/17/23 14:54

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 19:00
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:16

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-17

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309841	MMH	EET PHX	10/22/23 09:49
Total/NA	Analysis	300.0		50	309841	MMH	EET PHX	10/22/23 10:17
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:29
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 19:02
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 20:06
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:18
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:38
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:07
Total/NA	Analysis	353.2		2	631180	BCR	EET DEN	10/25/23 14:16
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:27
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 08:59
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 05:17

Client Sample ID: CH-CCR-W301-1023

Lab Sample ID: 550-209476-18

Date Collected: 10/19/23 15:52

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 19:05
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:20

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-19

Date Collected: 10/19/23 13:35

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309960	MMH	EET PHX	10/24/23 18:34
Total/NA	Analysis	300.0		50	309960	MMH	EET PHX	10/24/23 19:02
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:31
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		1	309988	GLW	EET PHX	10/25/23 19:08
Total/NA	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Total/NA	Analysis	200.7 Rev 4.4		10	310148	GLW	EET PHX	10/26/23 20:09
Total/NA	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Total/NA	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:22
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:40
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:08
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:30
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:34
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:00
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 05:40

Client Sample ID: CH-CCR-W303-1023

Lab Sample ID: 550-209476-20

Date Collected: 10/19/23 13:35

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309746	SGO	EET PHX	10/23/23 06:31
Dissolved	Analysis	200.7		1	309988	GLW	EET PHX	10/25/23 19:11
Dissolved	Prep	200.8			309755	SGO	EET PHX	10/23/23 09:48
Dissolved	Analysis	200.8 LL		5	309935	DSJ	EET PHX	10/24/23 18:24

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-21

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309930	MMH	EET PHX	10/24/23 15:50
Total/NA	Analysis	300.0		50	309930	MMH	EET PHX	10/24/23 16:09
Total/NA	Analysis	300.0		200	310138	SMA	EET PHX	10/28/23 21:59
Total/NA	Analysis	9056A		1	310213	MMH	EET PHX	10/30/23 14:27
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		1	378187	P1R	EET CAL 4	10/27/23 20:13
Total/NA	Prep	200.7			309748	SGO	EET PHX	10/23/23 06:49
Total/NA	Analysis	200.7 Rev 4.4		1	309919	GLW	EET PHX	10/24/23 19:07
Total/NA	Prep	200.7			309748	SGO	EET PHX	10/23/23 06:49
Total/NA	Analysis	200.7 Rev 4.4		20	310150	GLW	EET PHX	10/26/23 20:23

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-21

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309752	SGO	EET PHX	10/23/23 09:30
Total/NA	Analysis	200.8 LL		5	309934	DSJ	EET PHX	10/24/23 16:42
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:42
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 14:10
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:32
Total/NA	Analysis	SM 2320B		1	309886	MAN	EET PHX	10/24/23 16:41
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:03
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 06:02

Client Sample ID: CH-CCR-W306-1023

Lab Sample ID: 550-209476-22

Date Collected: 10/19/23 10:30

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309748	SGO	EET PHX	10/23/23 06:49
Dissolved	Analysis	200.7		1	309919	GLW	EET PHX	10/24/23 19:10
Dissolved	Prep	200.8			309752	SGO	EET PHX	10/23/23 09:30
Dissolved	Analysis	200.8 LL		5	309934	DSJ	EET PHX	10/24/23 16:44

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-23

Date Collected: 10/19/23 08:45

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	309930	MMH	EET PHX	10/24/23 16:27
Total/NA	Analysis	300.0		50	309930	MMH	EET PHX	10/24/23 17:48
Total Recoverable	Prep	200.7			377008	JP8N	EET CAL 4	10/25/23 08:52
Total Recoverable	Analysis	200.7 Rev 4.4		2	378187	P1R	EET CAL 4	10/28/23 10:39
Total/NA	Prep	200.7			309748	SGO	EET PHX	10/23/23 06:49
Total/NA	Analysis	200.7 Rev 4.4		1	309919	GLW	EET PHX	10/24/23 19:13
Total/NA	Prep	200.8			309752	SGO	EET PHX	10/23/23 09:30
Total/NA	Analysis	200.8 LL		5	309934	DSJ	EET PHX	10/24/23 16:46
Total/NA	Prep	245.1			309852	HHL	EET PHX	10/24/23 13:22
Total/NA	Analysis	245.1		1	309876	HHL	EET PHX	10/24/23 16:44
Total/NA	Analysis	350.1		1	310263	MAN	EET PHX	10/30/23 13:45
Total/NA	Analysis	353.2		1	631180	BCR	EET DEN	10/25/23 14:34
Total/NA	Analysis	SM 2540C		1	309843	KMG	EET PHX	10/24/23 11:20 - 10/30/23 17:11 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310003	MAN	EET PHX	10/26/23 09:05
Dissolved	Analysis	SM 5310B		1	310716	SMA	EET PHX	11/08/23 06:19

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1023

Lab Sample ID: 550-209476-24

Date Collected: 10/19/23 08:45

Matrix: Water

Date Received: 10/20/23 15:01

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309748	SGO	EET PHX	10/23/23 06:49
Dissolved	Analysis	200.7		1	309919	GLW	EET PHX	10/24/23 19:15
Dissolved	Prep	200.8			309752	SGO	EET PHX	10/23/23 09:30
Dissolved	Analysis	200.8 LL		5	309934	DSJ	EET PHX	10/24/23 16:48

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date												
Arizona	State	AZ0728	06-10-24												
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Analysis Method</th> <th style="text-align: left;">Prep Method</th> <th style="text-align: left;">Matrix</th> <th style="text-align: left;">Analyte</th> </tr> </thead> <tbody> <tr> <td>200.8 LL</td> <td>200.8</td> <td>Water</td> <td>Molybdenum</td> </tr> <tr> <td>SM 4500 H+ B</td> <td></td> <td>Water</td> <td>Temperature</td> </tr> </tbody> </table>				Analysis Method	Prep Method	Matrix	Analyte	200.8 LL	200.8	Water	Molybdenum	SM 4500 H+ B		Water	Temperature
Analysis Method	Prep Method	Matrix	Analyte												
200.8 LL	200.8	Water	Molybdenum												
SM 4500 H+ B		Water	Temperature												

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23 *

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209476-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
9056A	Anions, Ion Chromatography	SW846	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix

Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR
 Client Contact: Natalie Chrisman (602) 250-3608
 Lab Contact: Pam Norris (505) 598-8781
 Date: 2014/7/6
 TestAmerica Laboratories, Inc.

Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (BAP)
PO #: 300592358

Analysis Turnaround Time
 CALENDAR DAYS
 WORKING DAYS
 TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Filtered Sample (Y/N)
 Perform MS / MSD (Y / N)
 EPA 300.0 (Cl, F, SO4)
 EPA 200.7 - Totals (B, Ca, Be, Fe, Mn, K, Mg, Na)
 EPA 200.7 - Totals (B, Ca, Be, Fe, Mn)
 EPA 200.7 - Totals (B, Ca, Be)
 EPA 200.7 - Total Lithium
 EPA 200.7 - Dissolved (Fe, Mn)
 EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)
 EPA 200.8 - Dissolved (As, Co)
 EPA 245.1 - Totals (Hg)
 SM 4500-HB (pH)
 SM 2540C (TDS)
 SM 5310B (DOC)
 SM 4500-NH3 D (NH3 as N)
 353.2 (NO3+NO2 as N)
 SM 2320B (HCO3 Alk. as CaCO3)
 9056A - Fluoride

Sampler:
 For Lab Use Only:
 Walk-in Client:
 Lab Sampling:
 Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
CH-CCR-W301-1023	10/19/23	1552	G	W	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W303-1023	10/19/23	1335	G	W	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W306-1023	10/19/23	1030	G	W	11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
CH-CCR-W314-1023	10/18/23	845	G	W	10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other

Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Dispose by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
 Perform Method 200.8 with collision cell. * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

Cooler Temp. (°C): Obs'd: _____ Term ID No.: _____
 Custody Seals Intact: Yes No
 Relinquished by: *WSP* Company: *WSP* Date/Time: *10/20/23 15:01*
 Relinquished by: _____ Company: _____ Date/Time: _____
 Received in Laboratory by: *Yorke* Company: *FEITA PHX* Date/Time: *10/20/23 15:01*

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

1.9 | 2.3 | 3.1 | 3.2 | 4.1 | 6 | 2.1

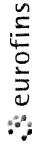
Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Eshelman, Linda Shipping/Receiving: linda.eshelman@et.eurofins.com Company: TestAmerica Laboratories, Inc. Address: 4955 Yarrow Street, Arvada, CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:		Lab PM: Eshelman, Linda E-Mail: linda.eshelman@et.eurofins.com State of Origin: Arizona Carrier Tracking No(s): 550-38074-1 Page: Page 1 of 2 Job #: 550-209476-1	
Due Date Requested: 11/2/2023 TAT Requested (days):		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
PO #: WO #: Project #: 55009651 SOW#:		Analysis Requested State - Arizona; State Program - Arizona	
Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=wastewater, BT=Tissue, A=Air) Preservation Code:		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> Perform M/MSD (Yes or No) <input checked="" type="checkbox"/> Total Number of Containers	
Sample Identification - Client ID (Lab ID) CH-CCR-M53A-1023 (550-209476-1) CH-CCR-MW69A-1023 (550-209476-3) CH-CCR-MW70M-1023 (550-209476-5) CH-CCR-MW71A-1023 (550-209476-7) CH-CCR-MW72M-1023 (550-209476-9) CH-CCR-MW73A-1023 (550-209476-11) CH-CCR-MW74M-1023 (550-209476-13) CH-CCR-MW77A-1023 (550-209476-15) CH-CCR-W301-1023 (550-209476-17)		Special Instructions/Note: 353, 2 Pres X X X X X X X X X X	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analysis & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.			
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by: Date:			
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:			
Relinquished by: <i>9/21/23-23</i> Relinquished by: <i>10/10/23</i> Relinquished by:		Received by: <i>Fred</i> Received by: <i>10/10/23</i> Received by:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: <i>16 in Marco CFS</i>	



Chain of Custody Record



Client Information (Sub Contract Lab) Client Contact: Eshelman, Linda Shipping/Receiving: linda.eshelman@et.eurofinsus.com Company: TestAmerica Laboratories, Inc. Address: 4955 Yarrow Street, City: Arvada State, Zip: CO, 80002 Phone: 303-736-0100(Tel) 303-431-7171(Fax) Email:		Sampler: Eshelman, Linda Phone:		Lab PM: Eshelman, Linda E-Mail: linda.eshelman@et.eurofinsus.com Accreditations Required (See note): State - Arizona; State Program - Arizona		Carrier Tracking No(s): State of Origin: Arizona Page: Page 2 of 2 Job #: 550-209476-1 Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:		COC No: 550-38074.2 Page: Page 2 of 2	
Due Date Requested: 11/2/2023 TAT Requested (days):		Analysis Requested		Total Number of Containers		Special Instructions/Note:			
PO # WO # Project #: CCR Groundwater Monitoring Site: Arizona Public Service		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/> 353.2 Pres Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		CH-CCR-W303-1023 (550-209476-19) CH-CCR-W306-1023 (550-209476-21) CH-CCR-W314-1023 (550-209476-23)		Sample Date 10/19/23 10/19/23 10/19/23		Sample Time 13:35 Arizona 10:30 Arizona 08:45 Arizona	
Matrix (Water, Solid, On-water, A=Air)		Sample Type (C=Comp, G=grab)		Preservation Code:		Water Water Water		X X X	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.									
Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2 Empty Kit Relinquished by: Date:									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:									
Received by: <i>[Signature]</i> Date/Time: 10-23-23 15:30 EDT Received by: <i>[Signature]</i> Date/Time: 10/23/23 09:40 Received by: _____ Date/Time: _____ Cooler Temperature(s) °C and Other Remarks:									



Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189

Phoenix, AZ 85040

Phone: 602-437-3340

Chain of Custody Record



Client Information (Sub Contract Lab)		Sampler:		Lab PM: Eshelman, Linda		Carrier Tracking No(s):		COC No: 550-38073.2			
Client Contact: Shipping/Receiving		Phone:		E-Mail: linda.eshelman@et.eurofinsus.com		State of Origin: Arizona		Page: Page 2 of 2			
Company: Eurofins Environment Testing Southwest,				Accreditations Required (See note): State - Arizona; State Program - Arizona				Job #: 550-209476-1			
Address: 2841 Dow Avenue, Suite 100,		Due Date Requested: 11/2/2023		Analysis Requested						Preservation C	
City: Tustin		TAT Requested (days):									
State, Zip: CA, 92780		PO #:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		200.7/200.7_P_TR (MOD) Custom 200.7 Metals List		Total Number of containers	
Phone: 714-895-5494(Tel)		WO #:									
Email:		Project #: 55009651		Special		Other:		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA			
Project Name: CCR Groundwater Monitoring		SSOW#:									
Site: Arizona Public Service		SSOW#:		Preservation Code:							
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=water/soil, BT=Tissue, AN=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TR (MOD) Custom 200.7 Metals List	Total Number of containers	Special	
CH-CCR-W303-1023 (550-209476-19)		10/19/23	13:35 Arizona	Water	Water		X		1		
CH-CCR-W306-1023 (550-209476-21)		10/19/23	10:30 Arizona	Water	Water		X		1		
CH-CCR-W314-1023 (550-209476-23)		10/19/23	08:45 Arizona	Water	Water		X		1		
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.</p>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 30 days)					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For					
Deliverable Requested: I, II, III, IV, Other (specify)				Primary Deliverable Rank: 2		Special Instructions/QC Requirements:					
Empty Kit Relinquished by:				Date:		Time:		Method of Shipment:			
Relinquished by: <i>[Signature]</i>		Date/Time: 10-23-23 15:30		Company: FedEx		Received by: <i>[Signature]</i>		Date/Time: 10/24/23 0935			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							

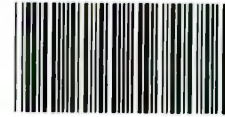


TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Environment 1
TestAmerica
eurofins

2219793



550-209476 Waybill

ORIGIN ID: INWA (602) 437-3340
TESTAMERICA-PHOENIX
TESTAMERICA
4625 E COTTON CENTER BLVD
SUITE 189
PHOENIX, AZ 85040
UNITED STATES US

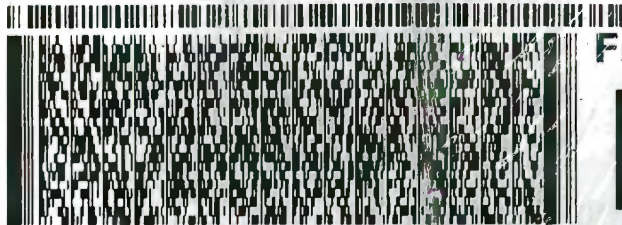
SHIP DATE: 23OCT23
ACTWGT: 52.60 LB
CAD: 0975926/CAFE3
DIMS: 25x13x14 IN
BILL RECIPIENT

TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUT
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 895-5494
PO: YES

REF: S550-86672
DEPT: SAMPLE RECEIVING



Fe

SIGNATURE

DATE

Custody Seal

10-23-23

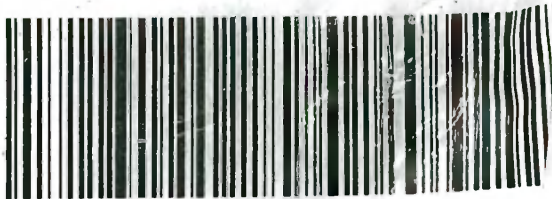
TUE - 24 OCT 1
PRIORITY OVERNIGHT

TRK# 6388 9413 2200
0201

QZ DTHA

CA-U

eurofins
Environment Testing
TestAmerica
2219793



- 1
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Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209476-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209476
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209476-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209476
List Number: 2
Creator: Khana, Piyush

List Source: Eurofins Calscience
List Creation: 10/24/23 01:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2219793
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209476-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209476
List Number: 3
Creator: Rystrom, Joshua R

List Source: Eurofins Denver
List Creation: 10/24/23 05:29 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 11/22/2023 1:28:32 PM

JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (BAP)

JOB NUMBER

550-209609-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
11/22/2023 1:28:32 PM

Authorized for release by
Linda Eshelman, Project Manager II
linda.eshelman@et.eurofinsus.com
(602)659-7681

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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Job ID: 550-209609-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-209609-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 10/25/2023 1:44 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.1°C, 1.4°C, 1.6°C and 3.2°C

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

Method 200.8_CWA_LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: CH-CCR-MW78A-1023 (550-209609-1), CH-CCR-MW78A-1023 (550-209609-2), CH-CCR-BAPTD-1023 (550-209609-3), CH-CCR-BAPTD-1023 (550-209609-4), CH-CCR-Petroglyph-1023 (550-209609-5), CH-CCR-Petroglyph-1023 (550-209609-6), CH-CCR-TannerWash-1023 (550-209609-7), CH-CCR-TannerWash-1023 (550-209609-8), CH-CCR-TWX3-1023 (550-209609-9), CH-CCR-TWX3-1023 (550-209609-10), (550-209609-F-1-A MS) and (550-209609-F-1-B MSD).

Method 200.8_CWA_LL: Due to sample matrix effect on the internal standard (ISTD), a dilution was required for the following samples: CH-CCR-MW78A-1023 (550-209609-1), CH-CCR-TWX5-1023 (550-209609-11), CH-CCR-TWX5-1023 (550-209609-12), CH-CCR-TWX7-1023 (550-209609-13), CH-CCR-TWX7-1023 (550-209609-14), CH-CCR-TWX9-1023 (550-209609-15), CH-CCR-TWX9-1023 (550-209609-16), CH-CCR-TWX10-1023 (550-209609-17), CH-CCR-TWX10-1023 (550-209609-18), CH-CCR-EB01-1023 (550-209609-19), CH-CCR-EB01-1023 (550-209609-20), (550-209609-F-1-A MS ^5) and (550-209609-F-1-B MSD ^5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method SM5310_DOC_B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 550-310867 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-209609-1	CH-CCR-MW78A-1023	Water	10/23/23 13:00	10/25/23 13:44
550-209609-2	CH-CCR-MW78A-1023	Water	10/23/23 13:00	10/25/23 13:44
550-209609-3	CH-CCR-BAPTD-1023	Water	10/24/23 08:42	10/25/23 13:44
550-209609-4	CH-CCR-BAPTD-1023	Water	10/24/23 08:42	10/25/23 13:44
550-209609-5	CH-CCR-Petroglyph-1023	Water	10/24/23 09:09	10/25/23 13:44
550-209609-6	CH-CCR-Petroglyph-1023	Water	10/24/23 09:09	10/25/23 13:44
550-209609-7	CH-CCR-TannerWash-1023	Water	10/24/23 09:28	10/25/23 13:44
550-209609-8	CH-CCR-TannerWash-1023	Water	10/24/23 09:28	10/25/23 13:44
550-209609-9	CH-CCR-TWX3-1023	Water	10/24/23 10:07	10/25/23 13:44
550-209609-10	CH-CCR-TWX3-1023	Water	10/24/23 10:07	10/25/23 13:44
550-209609-11	CH-CCR-TWX5-1023	Water	10/24/23 10:25	10/25/23 13:44
550-209609-12	CH-CCR-TWX5-1023	Water	10/24/23 10:25	10/25/23 13:44
550-209609-13	CH-CCR-TWX7-1023	Water	10/24/23 10:41	10/25/23 13:44
550-209609-14	CH-CCR-TWX7-1023	Water	10/24/23 10:41	10/25/23 13:44
550-209609-15	CH-CCR-TWX9-1023	Water	10/24/23 15:41	10/25/23 13:44
550-209609-16	CH-CCR-TWX9-1023	Water	10/24/23 15:41	10/25/23 13:44
550-209609-17	CH-CCR-TWX10-1023	Water	10/24/23 15:59	10/25/23 13:44
550-209609-18	CH-CCR-TWX10-1023	Water	10/24/23 15:59	10/25/23 13:44
550-209609-19	CH-CCR-EB01-1023	Water	10/25/23 08:15	10/25/23 13:44
550-209609-20	CH-CCR-EB01-1023	Water	10/25/23 08:15	10/25/23 13:44

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	200	mg/L	100		300.0	Total/NA
Sulfate	2300	D2	200	mg/L	100		300.0	Total/NA
Boron	0.42		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.6		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.24		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00086	M2	0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0022	M2	0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0014	M2 T5	0.00050	mg/L	1		200.8 LL	Total/NA
Selenium	0.00077	M2	0.00050	mg/L	1		200.8 LL	Total/NA
Ammonia	0.36		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900		100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	mg/L	1		200.7	Dissolved
Manganese	5.7		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.80		0.50	ug/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.63		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.62		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.63		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.5		0.40	mg/L	1		300.0	Total/NA
Sulfate	3100	D2	200	mg/L	100		300.0	Total/NA
Boron	4.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.56		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260	M3	2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.0		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	B1 M3	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.23		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00079		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0023		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00052		0.00010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.00077		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0044	T5	0.00050	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1023 (Continued)

Lab Sample ID: 550-209609-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.0013		0.00050	mg/L	1		200.8 LL	Total/NA
Ammonia	0.088		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.0		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.70		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	1.3		0.50	ug/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.9		0.40	mg/L	1		300.0	Total/NA
Sulfate	3000	D2	200	mg/L	100		300.0	Total/NA
Boron	4.0		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.1		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	26		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.21		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.00086		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0053		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0025		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0094	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Ammonia	0.089		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.31		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	85		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	85		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.2		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.2		0.50	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-6

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.64		0.50	ug/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-7

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	200	mg/L	100		300.0	Total/NA
Fluoride	32		4.0	mg/L	10		300.0	Total/NA
Sulfate	3000	D2	200	mg/L	100		300.0	Total/NA
Boron	4.2		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.75		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.20		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0012		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.0020		0.00050	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0024		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0037	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Ammonia	0.079		0.050	mg/L	1		350.1	Total/NA
Nitrate Nitrite as N	0.14		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	80		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	80		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.92		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.92		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.92		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-8

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.5		0.010	mg/L	1		200.7	Dissolved
Arsenic	0.75		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	2.4		0.50	ug/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.0		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.8		0.40	mg/L	1		300.0	Total/NA
Sulfate	3000	D2	200	mg/L	100		300.0	Total/NA
Boron	3.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-1023 (Continued)

Lab Sample ID: 550-209609-9

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Calcium	680		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.33		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.0		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400	B1	5.0	mg/L		10	200.7 Rev 4.4	Total/NA
Lithium	0.22		0.10	mg/L		2	200.7 Rev 4.4	Total Recoverable
Arsenic	0.00087		0.00050	mg/L		1	200.8 LL	Total/NA
Barium	0.0020		0.00050	mg/L		1	200.8 LL	Total/NA
Chromium	0.0038		0.0010	mg/L		1	200.8 LL	Total/NA
Cobalt	0.0025		0.00050	mg/L		1	200.8 LL	Total/NA
Molybdenum	0.0070	T5	0.00050	mg/L		1	200.8 LL	Total/NA
Ammonia	0.29		0.050	mg/L		1	350.1	Total/NA
Alkalinity as CaCO3	75		6.0	mg/L		1	SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0	mg/L		1	SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L		1	SM 2540C	Total/NA
pH	7.4	H5	1.7	SU		1	SM 4500 H+ B	Total/NA
Temperature	10.5	H5 T5	0.1	Degrees C		1	SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8		0.50	mg/L		1	SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.78		0.50	mg/L		1	SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8		0.50	mg/L		1	SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.8		0.010	mg/L		1	200.7	Dissolved
Arsenic	0.78		0.50	ug/L		1	200.8 LL	Dissolved
Cobalt	2.5		0.50	ug/L		1	200.8 LL	Dissolved
Dissolved Organic Carbon	0.95		0.50	mg/L		1	SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.92		0.50	mg/L		1	SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.95		0.50	mg/L		1	SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	200	mg/L		100	300.0	Total/NA
Fluoride	2.8		0.40	mg/L		1	300.0	Total/NA
Sulfate	2900	D2	200	mg/L		100	300.0	Total/NA
Boron	4.0		0.050	mg/L		1	200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L		1	200.7 Rev 4.4	Total/NA
Iron	0.55		0.10	mg/L		1	200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L		1	200.7 Rev 4.4	Total/NA
Manganese	4.0		0.010	mg/L		1	200.7 Rev 4.4	Total/NA
Potassium	17		0.50	mg/L		1	200.7 Rev 4.4	Total/NA
Sodium	1500	B1	5.0	mg/L		10	200.7 Rev 4.4	Total/NA
Lithium	0.21		0.10	mg/L		2	200.7 Rev 4.4	Total Recoverable
Arsenic	0.0053		0.0025	mg/L		5	200.8 LL	Total/NA
Barium	0.010		0.0025	mg/L		5	200.8 LL	Total/NA
Chromium	0.022		0.0050	mg/L		5	200.8 LL	Total/NA
Cobalt	0.014		0.0025	mg/L		5	200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-1023 (Continued)

Lab Sample ID: 550-209609-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0027		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.039	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.33		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.92		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.94		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.92		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.9		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.8		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	13		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	0.81		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.81		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.81		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	200	mg/L	100		300.0	Total/NA
Fluoride	2.7		0.40	mg/L	1		300.0	Total/NA
Sulfate	2900	D2	200	mg/L	100		300.0	Total/NA
Boron	3.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.21		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.2		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.21		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0043		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0042		0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.022		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.013		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.042	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.32		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.78		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.78		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.78		0.50	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-14

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	3.1		0.010	mg/L	1		200.7	Dissolved
Arsenic	4.0		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	13		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	0.91		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.91		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.91		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-15

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	200	mg/L	100		300.0	Total/NA
Fluoride	1.3		0.40	mg/L	1		300.0	Total/NA
Sulfate	2900	D2	200	mg/L	100		300.0	Total/NA
Boron	2.7		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.6		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.33		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0083		0.0025	mg/L	5		200.8 LL	Total/NA
Cadmium	0.00050		0.00050	mg/L	5		200.8 LL	Total/NA
Chromium	0.94		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.024		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.18	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Ammonia	0.080		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8600		100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-16

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.58		0.10	mg/L	1		200.7	Dissolved
Manganese	7.8		0.010	mg/L	1		200.7	Dissolved
Arsenic	6.0		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	11		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	200	mg/L	100		300.0	Total/NA
Fluoride	0.45		0.40	mg/L	1		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

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Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-1023 (Continued)

Lab Sample ID: 550-209609-17

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	2800	D2	200	mg/L	100		300.0	Total/NA
Boron	0.37		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.29		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.075		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.0		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100	B1	5.0	mg/L	10		200.7 Rev 4.4	Total/NA
Lithium	0.49		0.10	mg/L	2		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0034		0.0025	mg/L	5		200.8 LL	Total/NA
Barium	0.0097		0.0025	mg/L	5		200.8 LL	Total/NA
Chromium	0.015		0.0050	mg/L	5		200.8 LL	Total/NA
Cobalt	0.015		0.0025	mg/L	5		200.8 LL	Total/NA
Molybdenum	0.013	T5	0.0025	mg/L	5		200.8 LL	Total/NA
Nitrate Nitrite as N	0.11		0.10	mg/L	1		353.2	Total/NA
Alkalinity as CaCO3	74		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	74		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9300		100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.3		0.50	mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.3		0.50	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-18

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.021		0.010	mg/L	1		200.7	Dissolved
Arsenic	3.5		2.5	ug/L	5		200.8 LL	Dissolved
Cobalt	15		2.5	ug/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-19

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0029		0.0025	mg/L	5		200.8 LL	Total/NA
pH	5.9	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-20

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.2		2.5	ug/L	5		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-1

Date Collected: 10/23/23 13:00

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	200	mg/L			10/30/23 14:22	100
Fluoride	ND		0.40	mg/L			10/30/23 13:54	1
Sulfate	2300	D2	200	mg/L			10/30/23 14:22	100

Method: SW846 9056A - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.40	mg/L			10/30/23 13:54	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:06	1
Boron	0.42		0.050	mg/L		10/26/23 05:56	10/31/23 01:06	1
Calcium	750		2.0	mg/L		10/26/23 05:56	10/31/23 01:06	1
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:06	1
Magnesium	130		2.0	mg/L		10/26/23 05:56	10/31/23 01:06	1
Manganese	5.6		0.010	mg/L		10/26/23 05:56	10/31/23 01:06	1
Potassium	9.0		0.50	mg/L		10/26/23 05:56	10/31/23 01:06	1
Sodium	1700	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:25	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.24		0.10	mg/L		11/01/23 07:39	11/02/23 13:41	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	M2	0.0010	mg/L		10/26/23 05:13	10/27/23 19:20	1
Arsenic	0.00086	M2	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Barium	0.0022	M2	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Cadmium	ND	M2	0.00010	mg/L		10/26/23 05:13	10/27/23 19:20	1
Chromium	ND	M2	0.0010	mg/L		10/26/23 05:13	10/27/23 19:20	1
Cobalt	ND	M2	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Lead	ND	M2	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Molybdenum	0.0014	M2 T5	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Selenium	0.00077	M2	0.00050	mg/L		10/26/23 05:13	10/27/23 19:20	1
Thallium	ND	M2	0.00010	mg/L		10/26/23 05:13	10/27/23 19:20	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:45	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.36		0.050	mg/L			11/01/23 13:26	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:35	1
Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			11/01/23 12:20	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 12:20	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	140		6.0	mg/L			11/01/23 12:20	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:20	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:20	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-1

Date Collected: 10/23/23 13:00

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	7900		100	mg/L			10/27/23 12:51	1
pH (SM 4500 H+ B)	7.2	H5	1.7	SU			10/29/23 12:54	1
Temperature (SM 4500 H+ B)	10.3	H5 T5	0.1	Degrees C			10/29/23 12:54	1

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-2

Date Collected: 10/23/23 13:00

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	mg/L		10/26/23 05:56	10/31/23 01:08	1
Manganese	5.7		0.010	mg/L		10/26/23 05:56	10/31/23 01:08	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.80		0.50	ug/L		10/26/23 05:13	10/27/23 19:22	1
Cobalt	ND		0.50	ug/L		10/26/23 05:13	10/27/23 19:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.63		0.50	mg/L			11/08/23 22:29	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.62		0.50	mg/L			11/08/23 22:29	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.63		0.50	mg/L			11/08/23 22:29	1

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-3

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	200	mg/L			10/30/23 15:18	100
Fluoride	2.5		0.40	mg/L			10/30/23 14:50	1
Sulfate	3100	D2	200	mg/L			10/30/23 15:18	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:00	1
Boron	4.9		0.050	mg/L		10/26/23 05:56	10/31/23 01:00	1
Calcium	700	M3	2.0	mg/L		10/26/23 05:56	10/31/23 01:00	1
Iron	0.56		0.10	mg/L		10/26/23 05:56	10/31/23 01:00	1
Magnesium	260	M3	2.0	mg/L		10/26/23 05:56	10/31/23 01:00	1
Manganese	3.0		0.010	mg/L		10/26/23 05:56	10/31/23 01:00	1
Potassium	16		0.50	mg/L		10/26/23 05:56	10/31/23 01:00	1
Sodium	1700	B1 M3	5.0	mg/L		10/26/23 05:56	11/06/23 13:22	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.23		0.10	mg/L		11/01/23 07:39	11/02/23 13:44	2

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-3

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:24	1
Arsenic	0.00079		0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Barium	0.0023		0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Cadmium	0.00052		0.00010	mg/L		10/26/23 05:13	10/27/23 19:24	1
Chromium	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:24	1
Cobalt	0.0013		0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Lead	0.00077		0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Molybdenum	0.0044	T5	0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Selenium	0.0013		0.00050	mg/L		10/26/23 05:13	10/27/23 19:24	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:24	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:43	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.088		0.050	mg/L			11/01/23 13:31	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			10/31/23 16:37	1
Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			11/01/23 12:34	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 12:34	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	150		6.0	mg/L			11/01/23 12:34	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:34	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:34	1
Total Dissolved Solids (SM 2540C)	8700		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/29/23 12:56	1
Temperature (SM 4500 H+ B)	9.9	H5 T5	0.1	Degrees C			10/29/23 12:56	1
Total Organic Carbon (SM 5310B)	1.1		0.50	mg/L			11/14/23 01:15	1
Total Organic Carbon - Duplicates (SM 5310B)	1.1		0.50	mg/L			11/14/23 01:15	1
Total Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			11/14/23 01:15	1

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-4

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:03	1
Manganese	3.0		0.010	mg/L		10/26/23 05:56	10/31/23 01:03	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.70		0.50	ug/L		10/26/23 05:13	10/27/23 19:26	1
Cobalt	1.3		0.50	ug/L		10/26/23 05:13	10/27/23 19:26	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-4

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.2		0.50	mg/L			11/08/23 22:49	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.2		0.50	mg/L			11/08/23 22:49	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			11/08/23 22:49	1

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-5

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	200	mg/L			10/30/23 16:14	100
Fluoride	2.9		0.40	mg/L			10/30/23 15:46	1
Sulfate	3000	D2	200	mg/L			10/30/23 16:14	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:11	1
Boron	4.0		0.050	mg/L		10/26/23 05:56	10/31/23 01:11	1
Calcium	700		2.0	mg/L		10/26/23 05:56	10/31/23 01:11	1
Iron	0.23		0.10	mg/L		10/26/23 05:56	10/31/23 01:11	1
Magnesium	250		2.0	mg/L		10/26/23 05:56	10/31/23 01:11	1
Manganese	1.1		0.010	mg/L		10/26/23 05:56	10/31/23 01:11	1
Potassium	26		0.50	mg/L		10/26/23 05:56	10/31/23 01:11	1
Sodium	1600	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:28	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.21		0.10	mg/L		11/01/23 07:39	11/02/23 13:46	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:28	1
Arsenic	0.00086		0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Barium	0.0053		0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:28	1
Chromium	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:28	1
Cobalt	0.0025		0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Lead	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Molybdenum	0.0094	T5	0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Selenium	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:28	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:28	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.089		0.050	mg/L			11/01/23 13:32	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-5

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	0.31		0.10	mg/L			10/31/23 16:51	1
Alkalinity as CaCO3 (SM 2320B)	85		6.0	mg/L			11/01/23 12:41	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 12:41	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	85		6.0	mg/L			11/01/23 12:41	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:41	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:41	1
Total Dissolved Solids (SM 2540C)	8100		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/29/23 12:57	1
Temperature (SM 4500 H+ B)	9.8	H5 T5	0.1	Degrees C			10/29/23 12:57	1
Total Organic Carbon (SM 5310B)	1.2		0.50	mg/L			11/14/23 01:36	1
Total Organic Carbon - Duplicates (SM 5310B)	1.2		0.50	mg/L			11/14/23 01:36	1
Total Organic Carbon - Quad (SM 5310B)	1.2		0.50	mg/L			11/14/23 01:36	1

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-6

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:14	1
Manganese	1.1		0.010	mg/L		10/26/23 05:56	10/31/23 01:14	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.64		0.50	ug/L		10/26/23 05:13	10/27/23 19:30	1
Cobalt	ND		0.50	ug/L		10/26/23 05:13	10/27/23 19:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4		0.50	mg/L			11/08/23 23:06	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4		0.50	mg/L			11/08/23 23:06	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4		0.50	mg/L			11/08/23 23:06	1

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-7

Date Collected: 10/24/23 09:28

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	200	mg/L			10/30/23 18:34	100
Fluoride	32		4.0	mg/L			10/30/23 18:06	10
Sulfate	3000	D2	200	mg/L			10/30/23 18:34	100

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-7

Date Collected: 10/24/23 09:28

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:17	1
Boron	4.2		0.050	mg/L		10/26/23 05:56	10/31/23 01:17	1
Calcium	690		2.0	mg/L		10/26/23 05:56	10/31/23 01:17	1
Iron	0.75		0.10	mg/L		10/26/23 05:56	10/31/23 01:17	1
Magnesium	280		2.0	mg/L		10/26/23 05:56	10/31/23 01:17	1
Manganese	1.8		0.010	mg/L		10/26/23 05:56	10/31/23 01:17	1
Potassium	18		0.50	mg/L		10/26/23 05:56	10/31/23 01:17	1
Sodium	1500	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:31	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.10	mg/L		11/01/23 07:39	11/02/23 13:48	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:32	1
Arsenic	0.0012		0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Barium	0.0020		0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:32	1
Chromium	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:32	1
Cobalt	0.0024		0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Lead	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Molybdenum	0.0037	T5	0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Selenium	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:32	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:32	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:47	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.079		0.050	mg/L			11/01/23 13:34	1
Nitrate Nitrite as N (EPA 353.2)	0.14		0.10	mg/L			11/01/23 14:13	1
Alkalinity as CaCO3 (SM 2320B)	80		6.0	mg/L			11/01/23 12:47	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 12:47	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	80		6.0	mg/L			11/01/23 12:47	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:47	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:47	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/29/23 12:58	1
Temperature (SM 4500 H+ B)	10.2	H5 T5	0.1	Degrees C			10/29/23 12:58	1
Total Organic Carbon (SM 5310B)	0.92		0.50	mg/L			11/14/23 01:57	1
Total Organic Carbon - Duplicates (SM 5310B)	0.92		0.50	mg/L			11/14/23 01:57	1
Total Organic Carbon - Quad (SM 5310B)	0.92		0.50	mg/L			11/14/23 01:57	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-8

Date Collected: 10/24/23 09:28

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:20	1
Manganese	1.5		0.010	mg/L		10/26/23 05:56	10/31/23 01:20	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75		0.50	ug/L		10/26/23 05:13	10/27/23 19:34	1
Cobalt	2.4		0.50	ug/L		10/26/23 05:13	10/27/23 19:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.0		0.50	mg/L			11/08/23 23:27	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.0		0.50	mg/L			11/08/23 23:27	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.0		0.50	mg/L			11/08/23 23:27	1

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-9

Date Collected: 10/24/23 10:07

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	200	mg/L			10/30/23 19:30	100
Fluoride	2.8		0.40	mg/L			10/30/23 19:02	1
Sulfate	3000	D2	200	mg/L			10/30/23 19:30	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:23	1
Boron	3.9		0.050	mg/L		10/26/23 05:56	10/31/23 01:23	1
Calcium	680		2.0	mg/L		10/26/23 05:56	10/31/23 01:23	1
Iron	0.33		0.10	mg/L		10/26/23 05:56	10/31/23 01:23	1
Magnesium	240		2.0	mg/L		10/26/23 05:56	10/31/23 01:23	1
Manganese	4.0		0.010	mg/L		10/26/23 05:56	10/31/23 01:23	1
Potassium	17		0.50	mg/L		10/26/23 05:56	10/31/23 01:23	1
Sodium	1400	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:34	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.22		0.10	mg/L		11/01/23 07:39	11/02/23 13:51	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:36	1
Arsenic	0.00087		0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1
Barium	0.0020		0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:36	1
Chromium	0.0038		0.0010	mg/L		10/26/23 05:13	10/27/23 19:36	1
Cobalt	0.0025		0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1
Lead	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1
Molybdenum	0.0070	T5	0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-9

Date Collected: 10/24/23 10:07

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:36	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:36	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:49	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.29		0.050	mg/L			11/01/23 13:35	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			11/01/23 14:15	1
Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			11/01/23 12:54	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 12:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	75		6.0	mg/L			11/01/23 12:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:54	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 12:54	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			10/29/23 12:59	1
Temperature (SM 4500 H+ B)	10.5	H5 T5	0.1	Degrees C			10/29/23 12:59	1
Total Organic Carbon (SM 5310B)	1.8		0.50	mg/L			11/14/23 02:13	1
Total Organic Carbon - Duplicates (SM 5310B)	0.78		0.50	mg/L			11/14/23 02:13	1
Total Organic Carbon - Quad (SM 5310B)	1.8		0.50	mg/L			11/14/23 02:13	1

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-10

Date Collected: 10/24/23 10:07

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:26	1
Manganese	3.8		0.010	mg/L		10/26/23 05:56	10/31/23 01:26	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.78		0.50	ug/L		10/26/23 05:13	10/27/23 19:38	1
Cobalt	2.5		0.50	ug/L		10/26/23 05:13	10/27/23 19:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.95		0.50	mg/L			11/13/23 16:43	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.92		0.50	mg/L			11/13/23 16:43	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.95		0.50	mg/L			11/13/23 16:43	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-11

Date Collected: 10/24/23 10:25

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	200	mg/L			10/30/23 20:26	100
Fluoride	2.8		0.40	mg/L			10/30/23 19:58	1
Sulfate	2900	D2	200	mg/L			10/30/23 20:26	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:34	1
Boron	4.0		0.050	mg/L		10/26/23 05:56	10/31/23 01:34	1
Calcium	690		2.0	mg/L		10/26/23 05:56	10/31/23 01:34	1
Iron	0.55		0.10	mg/L		10/26/23 05:56	10/31/23 01:34	1
Magnesium	250		2.0	mg/L		10/26/23 05:56	10/31/23 01:34	1
Manganese	4.0		0.010	mg/L		10/26/23 05:56	10/31/23 01:34	1
Potassium	17		0.50	mg/L		10/26/23 05:56	10/31/23 01:34	1
Sodium	1500	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:37	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.21		0.10	mg/L		11/01/23 07:39	11/02/23 13:53	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 14:55	5
Arsenic	0.0053		0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Barium	0.010		0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:55	5
Chromium	0.022		0.0050	mg/L		10/26/23 05:13	11/03/23 14:55	5
Cobalt	0.014		0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Lead	0.0027		0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Molybdenum	0.039	T5	0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Selenium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 14:55	5
Thallium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:55	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.33		0.050	mg/L			11/01/23 13:37	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			11/01/23 14:17	1
Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			11/01/23 13:00	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			11/01/23 13:00	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:00	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:00	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.3	H5	1.7	SU			10/29/23 13:00	1
Temperature (SM 4500 H+ B)	11.5	H5 T5	0.1	Degrees C			10/29/23 13:00	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-11

Date Collected: 10/24/23 10:25

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon (SM 5310B)	0.92		0.50	mg/L			11/14/23 02:34	1
Total Organic Carbon - Duplicates (SM 5310B)	0.94		0.50	mg/L			11/14/23 02:34	1
Total Organic Carbon - Quad (SM 5310B)	0.92		0.50	mg/L			11/14/23 02:34	1

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-12

Date Collected: 10/24/23 10:25

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:37	1
Manganese	3.9		0.010	mg/L		10/26/23 05:56	10/31/23 01:37	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.8		2.5	ug/L		10/26/23 05:13	11/03/23 14:57	5
Cobalt	13		2.5	ug/L		10/26/23 05:13	11/03/23 14:57	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.81		0.50	mg/L			11/13/23 17:45	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.81		0.50	mg/L			11/13/23 17:45	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.81		0.50	mg/L			11/13/23 17:45	1

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-13

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	200	mg/L			10/30/23 21:22	100
Fluoride	2.7		0.40	mg/L			10/30/23 20:54	1
Sulfate	2900	D2	200	mg/L			10/30/23 21:22	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:40	1
Boron	3.9		0.050	mg/L		10/26/23 05:56	10/31/23 01:40	1
Calcium	690		2.0	mg/L		10/26/23 05:56	10/31/23 01:40	1
Iron	0.21		0.10	mg/L		10/26/23 05:56	10/31/23 01:40	1
Magnesium	240		2.0	mg/L		10/26/23 05:56	10/31/23 01:40	1
Manganese	3.2		0.010	mg/L		10/26/23 05:56	10/31/23 01:40	1
Potassium	16		0.50	mg/L		10/26/23 05:56	10/31/23 01:40	1
Sodium	1500	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:39	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.21		0.10	mg/L		11/01/23 07:39	11/02/23 13:56	2

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-13

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 14:59	5
Arsenic	0.0043		0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Barium	0.0042		0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:59	5
Chromium	0.022		0.0050	mg/L		10/26/23 05:13	11/03/23 14:59	5
Cobalt	0.013		0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Lead	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Molybdenum	0.042	T5	0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Selenium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 14:59	5
Thallium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:59	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:53	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.32		0.050	mg/L			11/01/23 13:38	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			11/01/23 14:19	1
Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			11/01/23 13:07	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:07	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	76		6.0	mg/L			11/01/23 13:07	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:07	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:07	1
Total Dissolved Solids (SM 2540C)	7700		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			10/29/23 13:01	1
Temperature (SM 4500 H+ B)	11.6	H5 T5	0.1	Degrees C			10/29/23 13:01	1
Total Organic Carbon (SM 5310B)	0.78		0.50	mg/L			11/14/23 02:55	1
Total Organic Carbon - Duplicates (SM 5310B)	0.78		0.50	mg/L			11/14/23 02:55	1
Total Organic Carbon - Quad (SM 5310B)	0.78		0.50	mg/L			11/14/23 02:55	1

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-14

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:43	1
Manganese	3.1		0.010	mg/L		10/26/23 05:56	10/31/23 01:43	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0		2.5	ug/L		10/26/23 05:13	11/03/23 15:01	5
Cobalt	13		2.5	ug/L		10/26/23 05:13	11/03/23 15:01	5

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-14

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	0.91		0.50	mg/L			11/13/23 18:02	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	0.91		0.50	mg/L			11/13/23 18:02	1
Dissolved Organic Carbon - Quad (SM 5310B)	0.91		0.50	mg/L			11/13/23 18:02	1

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-15

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	200	mg/L			10/30/23 23:42	100
Fluoride	1.3		0.40	mg/L			10/30/23 21:50	1
Sulfate	2900	D2	200	mg/L			10/30/23 23:42	100

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:45	1
Boron	2.7		0.050	mg/L		10/26/23 05:56	10/31/23 01:45	1
Calcium	770		2.0	mg/L		10/26/23 05:56	10/31/23 01:45	1
Iron	3.6		0.10	mg/L		10/26/23 05:56	10/31/23 01:45	1
Magnesium	230		2.0	mg/L		10/26/23 05:56	10/31/23 01:45	1
Manganese	6.8		0.010	mg/L		10/26/23 05:56	10/31/23 01:45	1
Potassium	14		0.50	mg/L		10/26/23 05:56	10/31/23 01:45	1
Sodium	1900	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:42	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.33		0.10	mg/L		11/01/23 07:39	11/02/23 13:58	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 15:03	5
Arsenic	0.0083		0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Barium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Cadmium	0.00050		0.00050	mg/L		10/26/23 05:13	11/03/23 15:03	5
Chromium	0.94		0.0050	mg/L		10/26/23 05:13	11/03/23 15:03	5
Cobalt	0.024		0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Lead	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Molybdenum	0.18	T5	0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Selenium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 15:03	5
Thallium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 15:03	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:55	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.080		0.050	mg/L			11/01/23 13:40	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-15

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			11/01/23 14:33	1
Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			11/01/23 13:13	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:13	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	110		6.0	mg/L			11/01/23 13:13	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:13	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:13	1
Total Dissolved Solids (SM 2540C)	8600		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			10/29/23 13:02	1
Temperature (SM 4500 H+ B)	12.2	H5 T5	0.1	Degrees C			10/29/23 13:02	1
Total Organic Carbon (SM 5310B)	1.1		0.50	mg/L			11/14/23 03:11	1
Total Organic Carbon - Duplicates (SM 5310B)	1.1		0.50	mg/L			11/14/23 03:11	1
Total Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			11/14/23 03:11	1

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-16

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.58		0.10	mg/L		10/26/23 05:56	10/31/23 01:48	1
Manganese	7.8		0.010	mg/L		10/26/23 05:56	10/31/23 01:48	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.0		2.5	ug/L		10/26/23 05:13	11/03/23 15:54	5
Cobalt	11		2.5	ug/L		10/26/23 05:13	11/03/23 15:54	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.1		0.50	mg/L			11/13/23 18:18	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.1		0.50	mg/L			11/13/23 18:18	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.1		0.50	mg/L			11/13/23 18:18	1

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-17

Date Collected: 10/24/23 15:59

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	200	mg/L			10/31/23 00:38	100
Fluoride	0.45		0.40	mg/L			10/31/23 00:10	1
Sulfate	2800	D2	200	mg/L			10/31/23 00:38	100

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-17

Date Collected: 10/24/23 15:59

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:51	1
Boron	0.37		0.050	mg/L		10/26/23 05:56	10/31/23 01:51	1
Calcium	750		2.0	mg/L		10/26/23 05:56	10/31/23 01:51	1
Iron	0.29		0.10	mg/L		10/26/23 05:56	10/31/23 01:51	1
Magnesium	170		2.0	mg/L		10/26/23 05:56	10/31/23 01:51	1
Manganese	0.075		0.010	mg/L		10/26/23 05:56	10/31/23 01:51	1
Potassium	6.0		0.50	mg/L		10/26/23 05:56	10/31/23 01:51	1
Sodium	2100	B1	5.0	mg/L		10/26/23 05:56	11/06/23 13:45	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.49		0.10	mg/L		11/01/23 07:39	11/02/23 14:19	2

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 15:56	5
Arsenic	0.0034		0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Barium	0.0097		0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 15:56	5
Chromium	0.015		0.0050	mg/L		10/26/23 05:13	11/03/23 15:56	5
Cobalt	0.015		0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Lead	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Molybdenum	0.013	T5	0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Selenium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 15:56	5
Thallium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 15:56	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:57	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 13:41	1
Nitrate Nitrite as N (EPA 353.2)	0.11		0.10	mg/L			11/01/23 14:37	1
Alkalinity as CaCO3 (SM 2320B)	74		6.0	mg/L			11/01/23 13:20	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:20	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	74		6.0	mg/L			11/01/23 13:20	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:20	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:20	1
Total Dissolved Solids (SM 2540C)	9300		100	mg/L			10/27/23 15:46	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			10/29/23 13:03	1
Temperature (SM 4500 H+ B)	11.5	H5 T5	0.1	Degrees C			10/29/23 13:03	1
Total Organic Carbon (SM 5310B)	1.3		0.50	mg/L			11/14/23 03:28	1
Total Organic Carbon - Duplicates (SM 5310B)	1.3		0.50	mg/L			11/14/23 03:28	1
Total Organic Carbon - Quad (SM 5310B)	1.3		0.50	mg/L			11/14/23 03:28	1

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-18

Date Collected: 10/24/23 15:59

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:54	1
Manganese	0.021		0.010	mg/L		10/26/23 05:56	10/31/23 01:54	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		2.5	ug/L		10/26/23 05:13	11/03/23 15:58	5
Cobalt	15		2.5	ug/L		10/26/23 05:13	11/03/23 15:58	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	1.4		0.50	mg/L			11/13/23 18:39	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	1.4		0.50	mg/L			11/13/23 18:39	1
Dissolved Organic Carbon - Quad (SM 5310B)	1.4		0.50	mg/L			11/13/23 18:39	1

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-19

Date Collected: 10/25/23 08:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/31/23 05:45	1
Fluoride	ND		0.40	mg/L			10/31/23 05:45	1
Sulfate	ND		2.0	mg/L			10/31/23 05:45	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 01:57	1
Boron	ND		0.050	mg/L		10/26/23 05:56	10/31/23 01:57	1
Calcium	ND		2.0	mg/L		10/26/23 05:56	10/31/23 01:57	1
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 01:57	1
Magnesium	ND		2.0	mg/L		10/26/23 05:56	10/31/23 01:57	1
Manganese	ND		0.010	mg/L		10/26/23 05:56	10/31/23 01:57	1
Potassium	ND		0.50	mg/L		10/26/23 05:56	10/31/23 01:57	1
Sodium	ND		5.0	mg/L		10/26/23 05:56	11/06/23 13:48	10

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.050	mg/L		11/01/23 07:39	11/02/23 14:22	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 16:00	5
Arsenic	0.0029		0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5
Barium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5
Cadmium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 16:00	5
Chromium	ND		0.0050	mg/L		10/26/23 05:13	11/03/23 16:00	5
Cobalt	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5
Lead	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5
Molybdenum	ND	T5	0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-19

Date Collected: 10/25/23 08:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.0025	mg/L		10/26/23 05:13	11/03/23 16:00	5
Thallium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 16:00	5

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	ND		0.050	mg/L			11/01/23 13:43	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			11/01/23 14:35	1
Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:26	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/01/23 13:26	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:26	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:26	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/01/23 13:26	1
Total Dissolved Solids (SM 2540C)	ND		20	mg/L			10/30/23 09:33	1
pH (SM 4500 H+ B)	5.9	H5	1.7	SU			10/29/23 13:04	1
Temperature (SM 4500 H+ B)	12.5	H5 T5	0.1	Degrees C			10/29/23 13:04	1
Total Organic Carbon (SM 5310B)	ND		0.50	mg/L			11/14/23 03:48	1
Total Organic Carbon - Duplicates (SM 5310B)	ND		0.50	mg/L			11/14/23 03:48	1
Total Organic Carbon - Quad (SM 5310B)	ND		0.50	mg/L			11/14/23 03:48	1

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-20

Date Collected: 10/25/23 08:15

Matrix: Water

Date Received: 10/25/23 13:44

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 02:00	1
Manganese	ND		0.010	mg/L		10/26/23 05:56	10/31/23 02:00	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.2		2.5	ug/L		10/26/23 05:13	11/03/23 16:02	5
Cobalt	ND		2.5	ug/L		10/26/23 05:13	11/03/23 16:02	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon (SM 5310B)	ND		0.50	mg/L			11/08/23 23:51	1
Dissolved Organic Carbon - Duplicate (SM 5310B)	ND		0.50	mg/L			11/08/23 23:51	1
Dissolved Organic Carbon - Quad (SM 5310B)	ND		0.50	mg/L			11/08/23 23:51	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-310211/2
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			10/30/23 10:10	1
Fluoride	ND		0.40	mg/L			10/30/23 10:10	1
Sulfate	ND		2.0	mg/L			10/30/23 10:10	1

Lab Sample ID: LCS 550-310211/5
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	18.9		mg/L		94	90 - 110
Fluoride	4.00	4.01		mg/L		100	90 - 110
Sulfate	20.0	19.0		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-310211/6
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	18.9		mg/L		95	90 - 110	0	20
Fluoride	4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.0		mg/L		95	90 - 110	0	20

Lab Sample ID: 550-209568-B-5 MS ^10
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	29		200	221		mg/L		96	80 - 120
Fluoride	ND		40.0	41.0		mg/L		101	80 - 120
Sulfate	340		200	514		mg/L		86	80 - 120

Lab Sample ID: 550-209568-B-5 MSD ^10
Matrix: Water
Analysis Batch: 310211

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29		200	222		mg/L		97	80 - 120	0	20
Fluoride	ND		40.0	41.3		mg/L		101	80 - 120	1	20
Sulfate	340		200	511		mg/L		85	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-309969/1-A
Matrix: Water
Analysis Batch: 310235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309969

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		10/26/23 05:56	10/31/23 00:46	1
Boron	ND		0.050	mg/L		10/26/23 05:56	10/31/23 00:46	1
Calcium	ND		2.0	mg/L		10/26/23 05:56	10/31/23 00:46	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-309969/1-A
Matrix: Water
Analysis Batch: 310235

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309969

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Iron	ND		0.10	mg/L		10/26/23 05:56	10/31/23 00:46	1
Magnesium	ND		2.0	mg/L		10/26/23 05:56	10/31/23 00:46	1
Manganese	ND		0.010	mg/L		10/26/23 05:56	10/31/23 00:46	1
Potassium	ND		0.50	mg/L		10/26/23 05:56	10/31/23 00:46	1
Sodium	0.696	B1	0.50	mg/L		10/26/23 05:56	10/31/23 00:46	1

Lab Sample ID: LCS 550-309969/2-A
Matrix: Water
Analysis Batch: 310235

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Beryllium	1.00	0.989		mg/L		99	85 - 115
Boron	1.00	1.02		mg/L		102	85 - 115
Calcium	21.0	21.8		mg/L		104	85 - 115
Iron	1.00	0.961		mg/L		96	85 - 115
Magnesium	21.0	20.8		mg/L		99	85 - 115
Manganese	1.00	0.968		mg/L		97	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Sodium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-309969/3-A
Matrix: Water
Analysis Batch: 310235

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Beryllium	1.00	1.01		mg/L		101	85 - 115	2	20
Boron	1.00	1.04		mg/L		104	85 - 115	2	20
Calcium	21.0	22.3		mg/L		106	85 - 115	2	20
Iron	1.00	0.989		mg/L		99	85 - 115	3	20
Magnesium	21.0	21.2		mg/L		101	85 - 115	2	20
Manganese	1.00	0.991		mg/L		99	85 - 115	2	20
Potassium	20.0	20.2		mg/L		101	85 - 115	2	20
Sodium	20.0	20.9		mg/L		105	85 - 115	2	20

Lab Sample ID: 550-209609-3 MS
Matrix: Water
Analysis Batch: 310235

Client Sample ID: CH-CCR-BAPTD-1023
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Beryllium	ND		1.00	1.04		mg/L		104	70 - 130
Boron	4.9		1.00	5.80	M3	mg/L		86	70 - 130
Calcium	700	M3	21.0	675	M3	mg/L		-97	70 - 130
Iron	0.56		1.00	1.55		mg/L		99	70 - 130
Magnesium	260	M3	21.0	268	M3	mg/L		29	70 - 130
Manganese	3.0		1.00	3.74		mg/L		78	70 - 130
Potassium	16		20.0	37.9		mg/L		112	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209609-3 MS
Matrix: Water
Analysis Batch: 310603

Client Sample ID: CH-CCR-BAPTD-1023
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	1700	B1 M3	20.0	1600	M3	mg/L		-450	70 - 130

Lab Sample ID: 550-209609-3 MSD
Matrix: Water
Analysis Batch: 310235

Client Sample ID: CH-CCR-BAPTD-1023
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130	1	20
Boron	4.9		1.00	5.76	M3	mg/L		83	70 - 130	1	20
Calcium	700	M3	21.0	677	M3	mg/L		-83	70 - 130	0	20
Iron	0.56		1.00	1.54		mg/L		98	70 - 130	0	20
Magnesium	260	M3	21.0	270	M3	mg/L		34	70 - 130	0	20
Manganese	3.0		1.00	3.71		mg/L		75	70 - 130	1	20
Potassium	16		20.0	38.0		mg/L		112	70 - 130	0	20

Lab Sample ID: 550-209609-3 MSD
Matrix: Water
Analysis Batch: 310603

Client Sample ID: CH-CCR-BAPTD-1023
Prep Type: Total/NA
Prep Batch: 309969

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Sodium	1700	B1 M3	20.0	1610	M3	mg/L		-410	70 - 130	1	20

Lab Sample ID: MB 570-379148/1-A
Matrix: Water
Analysis Batch: 379787

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 379148

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.050	mg/L		11/01/23 07:39	11/02/23 13:28	1

Lab Sample ID: LCS 570-379148/2-A
Matrix: Water
Analysis Batch: 379787

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 379148

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.500	0.494		mg/L		99	85 - 115

Lab Sample ID: LCSD 570-379148/3-A
Matrix: Water
Analysis Batch: 379787

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 379148

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Lithium	0.500	0.494		mg/L		99	85 - 115	0	20

Lab Sample ID: 550-209609-15 MS
Matrix: Water
Analysis Batch: 379787

Client Sample ID: CH-CCR-TWX9-1023
Prep Type: Total Recoverable
Prep Batch: 379148

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	0.33		0.500	0.829		mg/L		100	80 - 120

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-209609-15 MSD
Matrix: Water
Analysis Batch: 379787

Client Sample ID: CH-CCR-TWX9-1023
Prep Type: Total Recoverable
Prep Batch: 379148

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Lithium	0.33		0.500	0.856		mg/L		105	80 - 120	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-309967/1-A
Matrix: Water
Analysis Batch: 310202

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309967

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:05	1
Arsenic	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Barium	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:05	1
Chromium	ND		0.0010	mg/L		10/26/23 05:13	10/27/23 19:05	1
Cobalt	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Lead	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Molybdenum	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Selenium	ND		0.00050	mg/L		10/26/23 05:13	10/27/23 19:05	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	10/27/23 19:05	1

Lab Sample ID: MB 550-309967/1-A
Matrix: Water
Analysis Batch: 310541

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 309967

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		10/26/23 05:13	11/03/23 14:34	1
Arsenic	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Barium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Cadmium	ND		0.00010	mg/L		10/26/23 05:13	11/03/23 14:34	1
Chromium	ND		0.0010	mg/L		10/26/23 05:13	11/03/23 14:34	1
Cobalt	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Lead	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Molybdenum	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Selenium	ND		0.00050	mg/L		10/26/23 05:13	11/03/23 14:34	1
Thallium	ND		0.00010	mg/L		10/26/23 05:13	11/03/23 14:34	1

Lab Sample ID: LCS 550-309967/2-A
Matrix: Water
Analysis Batch: 310202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Antimony	0.100	0.0943		mg/L		94	85 - 115
Arsenic	0.100	0.0953		mg/L		95	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0964		mg/L		96	85 - 115
Chromium	0.100	0.0965		mg/L		97	85 - 115
Cobalt	0.100	0.0961		mg/L		96	85 - 115
Lead	0.100	0.103		mg/L		103	85 - 115
Molybdenum	0.100	0.0974		mg/L		97	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-309967/2-A
Matrix: Water
Analysis Batch: 310202

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Selenium	0.100	0.0928		mg/L		93	85 - 115
Thallium	0.100	0.100		mg/L		100	85 - 115

Lab Sample ID: LCS 550-309967/2-A
Matrix: Water
Analysis Batch: 310541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Antimony	0.100	0.0940		mg/L		94	85 - 115
Arsenic	0.100	0.0959		mg/L		96	85 - 115
Barium	0.100	0.102		mg/L		102	85 - 115
Cadmium	0.100	0.0968		mg/L		97	85 - 115
Chromium	0.100	0.0970		mg/L		97	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.0984		mg/L		98	85 - 115
Molybdenum	0.100	0.0995		mg/L		99	85 - 115
Selenium	0.100	0.0953		mg/L		95	85 - 115
Thallium	0.100	0.0945		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-309967/3-A
Matrix: Water
Analysis Batch: 310202

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Antimony	0.100	0.0929		mg/L		93	85 - 115	1	20
Arsenic	0.100	0.0935		mg/L		94	85 - 115	2	20
Barium	0.100	0.0998		mg/L		100	85 - 115	2	20
Cadmium	0.100	0.0952		mg/L		95	85 - 115	1	20
Chromium	0.100	0.0945		mg/L		94	85 - 115	2	20
Cobalt	0.100	0.0949		mg/L		95	85 - 115	1	20
Lead	0.100	0.100		mg/L		100	85 - 115	2	20
Molybdenum	0.100	0.0947		mg/L		95	85 - 115	3	20
Selenium	0.100	0.0913		mg/L		91	85 - 115	2	20
Thallium	0.100	0.0981		mg/L		98	85 - 115	2	20

Lab Sample ID: LCSD 550-309967/3-A
Matrix: Water
Analysis Batch: 310541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Antimony	0.100	0.0950		mg/L		95	85 - 115	1	20
Arsenic	0.100	0.0968		mg/L		97	85 - 115	1	20
Barium	0.100	0.102		mg/L		102	85 - 115	0	20
Cadmium	0.100	0.0966		mg/L		97	85 - 115	0	20
Chromium	0.100	0.0986		mg/L		99	85 - 115	2	20
Cobalt	0.100	0.102		mg/L		102	85 - 115	1	20
Lead	0.100	0.101		mg/L		101	85 - 115	2	20
Molybdenum	0.100	0.0997		mg/L		100	85 - 115	0	20
Selenium	0.100	0.0954		mg/L		95	85 - 115	0	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-309967/3-A
Matrix: Water
Analysis Batch: 310541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Thallium	0.100	0.0960		mg/L		96	85 - 115	2	20	

Lab Sample ID: 550-209609-1 MS
Matrix: Water
Analysis Batch: 310202

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Antimony	ND	M2	0.100	0.0185	M2	mg/L		18	70 - 130	
Arsenic	0.00086	M2	0.100	0.0191	M2	mg/L		18	70 - 130	
Barium	0.0022	M2	0.100	0.0215	M2	mg/L		19	70 - 130	
Cadmium	ND	M2	0.100	0.0179	M2	mg/L		18	70 - 130	
Chromium	ND	M2	0.100	0.0173	M2	mg/L		17	70 - 130	
Cobalt	ND	M2	0.100	0.0176	M2	mg/L		17	70 - 130	
Lead	ND	M2	0.100	0.0177	M2	mg/L		18	70 - 130	
Molybdenum	0.0014	T5 M2	0.100	0.0202	M2	mg/L		19	70 - 130	
Selenium	0.00077	M2	0.100	0.0176	M2	mg/L		17	70 - 130	
Thallium	ND	M2	0.100	0.0175	M2	mg/L		17	70 - 130	

Lab Sample ID: 550-209609-1 MS
Matrix: Water
Analysis Batch: 310541

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Antimony	ND		0.100	0.0925		mg/L		92	70 - 130	
Arsenic	0.0036		0.100	0.0974		mg/L		94	70 - 130	
Barium	0.011		0.100	0.107		mg/L		96	70 - 130	
Cadmium	ND		0.100	0.0898		mg/L		90	70 - 130	
Chromium	ND		0.100	0.0911		mg/L		91	70 - 130	
Cobalt	ND		0.100	0.0955		mg/L		94	70 - 130	
Lead	ND		0.100	0.0880		mg/L		88	70 - 130	
Molybdenum	0.0071	T5	0.100	0.103		mg/L		96	70 - 130	
Selenium	ND		0.100	0.0896		mg/L		90	70 - 130	
Thallium	ND		0.100	0.0840		mg/L		84	70 - 130	

Lab Sample ID: 550-209609-1 MSD
Matrix: Water
Analysis Batch: 310202

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Antimony	ND	M2	0.100	0.0189	M2	mg/L		19	70 - 130	2	20	
Arsenic	0.00086	M2	0.100	0.0194	M2	mg/L		19	70 - 130	2	20	
Barium	0.0022	M2	0.100	0.0223	M2	mg/L		20	70 - 130	4	20	
Cadmium	ND	M2	0.100	0.0182	M2	mg/L		18	70 - 130	2	20	
Chromium	ND	M2	0.100	0.0180	M2	mg/L		18	70 - 130	4	20	
Cobalt	ND	M2	0.100	0.0182	M2	mg/L		18	70 - 130	3	20	
Lead	ND	M2	0.100	0.0187	M2	mg/L		19	70 - 130	5	20	
Molybdenum	0.0014	T5 M2	0.100	0.0209	M2	mg/L		20	70 - 130	3	20	
Selenium	0.00077	M2	0.100	0.0181	M2	mg/L		17	70 - 130	3	20	
Thallium	ND	M2	0.100	0.0181	M2	mg/L		18	70 - 130	3	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-209609-1 MSD
Matrix: Water
Analysis Batch: 310541

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA
Prep Batch: 309967

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Antimony	ND		0.100	0.0936		mg/L		93	70 - 130	1	20
Arsenic	0.0036		0.100	0.0978		mg/L		94	70 - 130	0	20
Barium	0.011		0.100	0.110		mg/L		99	70 - 130	3	20
Cadmium	ND		0.100	0.0896		mg/L		89	70 - 130	0	20
Chromium	ND		0.100	0.0913		mg/L		91	70 - 130	0	20
Cobalt	ND		0.100	0.0956		mg/L		94	70 - 130	0	20
Lead	ND		0.100	0.0886		mg/L		89	70 - 130	1	20
Molybdenum	0.0071	T5	0.100	0.106		mg/L		99	70 - 130	3	20
Selenium	ND		0.100	0.0891		mg/L		89	70 - 130	1	20
Thallium	ND		0.100	0.0843		mg/L		84	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-310101/1-A
Matrix: Water
Analysis Batch: 310123

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 310101

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Mercury	ND		0.00020	mg/L		10/27/23 11:38	10/27/23 15:03	1

Lab Sample ID: LCS 550-310101/2-A
Matrix: Water
Analysis Batch: 310123

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 310101

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Mercury	0.00500	0.00469		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-310101/3-A
Matrix: Water
Analysis Batch: 310123

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 310101

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
	Added	Result	Qualifier				Limits	RPD	Limit
Mercury	0.00500	0.00463		mg/L		93	85 - 115	1	20

Lab Sample ID: 550-209622-F-1-B MS
Matrix: Water
Analysis Batch: 310123

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 310101

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Mercury	ND		0.00500	0.00629		mg/L		126	70 - 130

Lab Sample ID: 550-209622-F-1-C MSD
Matrix: Water
Analysis Batch: 310123

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 310101

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits	RPD	Limit
Mercury	ND		0.00500	0.00612		mg/L		122	70 - 130	3	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-209624-F-1-C MS
 Matrix: Water
 Analysis Batch: 310123

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 310101

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00560		mg/L		112	70 - 130

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-310375/60
 Matrix: Water
 Analysis Batch: 310375

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			11/01/23 13:22	1

Lab Sample ID: LCS 550-310375/61
 Matrix: Water
 Analysis Batch: 310375

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.980		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310375/62
 Matrix: Water
 Analysis Batch: 310375

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	0.993		mg/L		99	90 - 110	1	20

Lab Sample ID: 550-209609-1 MS
 Matrix: Water
 Analysis Batch: 310375

Client Sample ID: CH-CCR-MW78A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.36		1.00	1.40		mg/L		104	90 - 110

Lab Sample ID: 550-209609-1 MSD
 Matrix: Water
 Analysis Batch: 310375

Client Sample ID: CH-CCR-MW78A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.36		1.00	1.30		mg/L		94	90 - 110	8	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-631959/104
 Matrix: Water
 Analysis Batch: 631959

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/31/23 15:45	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: MB 280-631959/60
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			10/31/23 14:17	1

Lab Sample ID: LCS 280-631959/103
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.73		mg/L		95	90 - 110

Lab Sample ID: 550-209610-G-11 MS
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	ND		4.00	3.80		mg/L		93	90 - 110

Lab Sample ID: 550-209610-G-11 MSD
Matrix: Water
Analysis Batch: 631959

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND		4.00	3.87		mg/L		94	90 - 110	2	10

Lab Sample ID: MB 280-632151/23
Matrix: Water
Analysis Batch: 632151

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			11/01/23 13:58	1

Lab Sample ID: LCS 280-632151/21
Matrix: Water
Analysis Batch: 632151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	5.15		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-632151/22
Matrix: Water
Analysis Batch: 632151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	5.00	5.05		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-209609-17 MS
Matrix: Water
Analysis Batch: 632151

Client Sample ID: CH-CCR-TWX10-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	0.11		4.00	4.18		mg/L		102	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: 550-209609-17 MSD
 Matrix: Water
 Analysis Batch: 632151

Client Sample ID: CH-CCR-TWX10-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.11		4.00	4.16		mg/L		101	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-310379/3
 Matrix: Water
 Analysis Batch: 310379

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			11/01/23 11:51	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			11/01/23 11:51	1

Lab Sample ID: LCS 550-310379/4
 Matrix: Water
 Analysis Batch: 310379

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	249		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-310379/17
 Matrix: Water
 Analysis Batch: 310379

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110	3	20

Lab Sample ID: 550-209609-1 DU
 Matrix: Water
 Analysis Batch: 310379

Client Sample ID: CH-CCR-MW78A-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		139		mg/L		0.3	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Bicarbonate Alkalinity as CaCO3	140		139		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-310111/1
 Matrix: Water
 Analysis Batch: 310111

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/27/23 12:51	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-310111/2
Matrix: Water
Analysis Batch: 310111

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310111/3
Matrix: Water
Analysis Batch: 310111

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	966		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-209609-1 DU
Matrix: Water
Analysis Batch: 310111

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7900		7720		mg/L		2	10

Lab Sample ID: MB 550-310120/1
Matrix: Water
Analysis Batch: 310120

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/27/23 15:46	1

Lab Sample ID: LCS 550-310120/2
Matrix: Water
Analysis Batch: 310120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	980		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310120/3
Matrix: Water
Analysis Batch: 310120

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	956		mg/L		96	90 - 110	2	10

Lab Sample ID: 550-209599-C-3 DU
Matrix: Water
Analysis Batch: 310120

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1900		1920		mg/L		1	10

Lab Sample ID: MB 550-310159/1
Matrix: Water
Analysis Batch: 310159

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			10/30/23 09:33	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 550-310159/2
Matrix: Water
Analysis Batch: 310159

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	982		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-310159/3
Matrix: Water
Analysis Batch: 310159

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	990		mg/L		99	90 - 110	1	10

Lab Sample ID: 550-209578-K-1 DU
Matrix: Water
Analysis Batch: 310159

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	680		674		mg/L		1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-310142/37
Matrix: Water
Analysis Batch: 310142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-310142/49
Matrix: Water
Analysis Batch: 310142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: 550-209609-1 DU
Matrix: Water
Analysis Batch: 310142

Client Sample ID: CH-CCR-MW78A-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	H5	7.2		SU		0.1	5
Temperature	10.3	H5 T5	10.2		Degrees C		1	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-311093/5
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50	mg/L			11/13/23 19:36	1
Total Organic Carbon - Duplicates	ND		0.50	mg/L			11/13/23 19:36	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 550-311093/5
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		0.50	mg/L			11/13/23 19:36	1

Lab Sample ID: LCS 550-311093/2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Duplicates	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-311093/3
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.6		mg/L		98	90 - 110	6	20
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		96	90 - 110	4	20
Total Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	6	20

Lab Sample ID: 550-209656-F-1 MSD ^2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Organic Carbon	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20
Total Organic Carbon - Duplicates	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20
Total Organic Carbon - Quad	430	M3 D2	40.0	501	D2 M3	mg/L		173	90 - 110	7	20

Lab Sample ID: 550-209656-G-1 MS ^2
Matrix: Water
Analysis Batch: 311093

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110
Total Organic Carbon - Duplicates	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110
Total Organic Carbon - Quad	430	M3 D2	40.0	466	D2 M3	mg/L		86	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-310867/3
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			11/08/23 19:23	1
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/08/23 19:23	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-310867/3
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/08/23 19:23	1

Lab Sample ID: LCS 550-310867/5
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-310867/6
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.3		mg/L		92	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		93	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110	2	20

Lab Sample ID: 550-209476-G-9 MS
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dissolved Organic Carbon	0.55	M2	20.0	18.1	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Duplicate	0.56	M2	20.0	18.1	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Quad	0.55	M2	20.0	18.1	M2	mg/L		88	90 - 110

Lab Sample ID: 550-209476-J-9 MSD
Matrix: Water
Analysis Batch: 310867

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.55	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	0.56	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20
Dissolved Organic Carbon - Quad	0.55	M2	20.0	17.5	M2	mg/L		85	90 - 110	3	20

Lab Sample ID: MB 550-311092/3
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50	mg/L			11/13/23 12:02	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-311092/3

Matrix: Water

Analysis Batch: 311092

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Dissolved Organic Carbon - Duplicate	ND		0.50	mg/L			11/13/23 12:02	1
Dissolved Organic Carbon - Quad	ND		0.50	mg/L			11/13/23 12:02	1

Lab Sample ID: LCS 550-311092/5

Matrix: Water

Analysis Batch: 311092

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-311092/6

Matrix: Water

Analysis Batch: 311092

Client Sample ID: Lab Control Sample Dup

Prep Type: Dissolved

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110	6	20
Dissolved Organic Carbon - Duplicate	20.0	19.1		mg/L		96	90 - 110	4	20
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	6	20

Lab Sample ID: 550-209610-B-6 MSD

Matrix: Water

Analysis Batch: 311092

Client Sample ID: Matrix Spike Duplicate

Prep Type: Dissolved

Analyte	Sample	Sample	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
Dissolved Organic Carbon	2.0		20.0	21.6		mg/L		98	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	2.0		20.0	21.6		mg/L		98	90 - 110	3	20
Dissolved Organic Carbon - Quad	2.0		20.0	21.6		mg/L		98	90 - 110	2	20

Lab Sample ID: 550-209610-C-6 MS

Matrix: Water

Analysis Batch: 311092

Client Sample ID: Matrix Spike

Prep Type: Dissolved

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Dissolved Organic Carbon	2.0		20.0	21.2		mg/L		96	90 - 110
Dissolved Organic Carbon - Duplicate	2.0		20.0	21.0		mg/L		95	90 - 110
Dissolved Organic Carbon - Quad	2.0		20.0	21.2		mg/L		96	90 - 110

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 310211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	300.0	
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	300.0	
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	9056A	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	300.0	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	300.0	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	300.0	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	300.0	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	300.0	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	300.0	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	300.0	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	300.0	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	300.0	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	300.0	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	300.0	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	300.0	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	300.0	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	300.0	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	300.0	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	300.0	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	300.0	
MB 550-310211/2	Method Blank	Total/NA	Water	300.0	
LCS 550-310211/5	Lab Control Sample	Total/NA	Water	300.0	
LCS 550-310211/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-209568-B-5 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-209568-B-5 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 309967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	200.8	
550-209609-2	CH-CCR-MW78A-1023	Dissolved	Water	200.8	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	200.8	
550-209609-4	CH-CCR-BAPTD-1023	Dissolved	Water	200.8	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	200.8	
550-209609-6	CH-CCR-Petroglyph-1023	Dissolved	Water	200.8	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	200.8	
550-209609-8	CH-CCR-TannerWash-1023	Dissolved	Water	200.8	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	200.8	
550-209609-10	CH-CCR-TWX3-1023	Dissolved	Water	200.8	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	200.8	
550-209609-12	CH-CCR-TWX5-1023	Dissolved	Water	200.8	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	200.8	
550-209609-14	CH-CCR-TWX7-1023	Dissolved	Water	200.8	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	200.8	
550-209609-16	CH-CCR-TWX9-1023	Dissolved	Water	200.8	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	200.8	
550-209609-18	CH-CCR-TWX10-1023	Dissolved	Water	200.8	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	200.8	
550-209609-20	CH-CCR-EB01-1023	Dissolved	Water	200.8	
MB 550-309967/1-A	Method Blank	Total/NA	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 309967 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-309967/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-309967/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-209609-1 MS	CH-CCR-MW78A-1023	Total/NA	Water	200.8	
550-209609-1 MSD	CH-CCR-MW78A-1023	Total/NA	Water	200.8	

Prep Batch: 309969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	200.7	
550-209609-2	CH-CCR-MW78A-1023	Dissolved	Water	200.7	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	200.7	
550-209609-4	CH-CCR-BAPTD-1023	Dissolved	Water	200.7	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	200.7	
550-209609-6	CH-CCR-Petroglyph-1023	Dissolved	Water	200.7	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	200.7	
550-209609-8	CH-CCR-TannerWash-1023	Dissolved	Water	200.7	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	200.7	
550-209609-10	CH-CCR-TWX3-1023	Dissolved	Water	200.7	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	200.7	
550-209609-12	CH-CCR-TWX5-1023	Dissolved	Water	200.7	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	200.7	
550-209609-14	CH-CCR-TWX7-1023	Dissolved	Water	200.7	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	200.7	
550-209609-16	CH-CCR-TWX9-1023	Dissolved	Water	200.7	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	200.7	
550-209609-18	CH-CCR-TWX10-1023	Dissolved	Water	200.7	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	200.7	
550-209609-20	CH-CCR-EB01-1023	Dissolved	Water	200.7	
MB 550-309969/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-309969/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-309969/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-209609-3 MS	CH-CCR-BAPTD-1023	Total/NA	Water	200.7	
550-209609-3 MSD	CH-CCR-BAPTD-1023	Total/NA	Water	200.7	

Prep Batch: 310101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	245.1	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	245.1	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	245.1	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	245.1	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	245.1	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	245.1	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	245.1	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	245.1	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	245.1	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	245.1	
MB 550-310101/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-310101/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-310101/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-209622-F-1-B MS	Matrix Spike	Total/NA	Water	245.1	
550-209622-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	
550-209624-F-1-C MS	Matrix Spike	Total/NA	Water	245.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 310123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	245.1	310101
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	245.1	310101
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	245.1	310101
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	245.1	310101
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	245.1	310101
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	245.1	310101
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	245.1	310101
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	245.1	310101
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	245.1	310101
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	245.1	310101
MB 550-310101/1-A	Method Blank	Total/NA	Water	245.1	310101
LCS 550-310101/2-A	Lab Control Sample	Total/NA	Water	245.1	310101
LCSD 550-310101/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	310101
550-209622-F-1-B MS	Matrix Spike	Total/NA	Water	245.1	310101
550-209622-F-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	310101
550-209624-F-1-C MS	Matrix Spike	Total/NA	Water	245.1	310101

Analysis Batch: 310202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	200.8 LL	309967
550-209609-2	CH-CCR-MW78A-1023	Dissolved	Water	200.8 LL	309967
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	200.8 LL	309967
550-209609-4	CH-CCR-BAPTD-1023	Dissolved	Water	200.8 LL	309967
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	200.8 LL	309967
550-209609-6	CH-CCR-Petroglyph-1023	Dissolved	Water	200.8 LL	309967
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	200.8 LL	309967
550-209609-8	CH-CCR-TannerWash-1023	Dissolved	Water	200.8 LL	309967
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	200.8 LL	309967
550-209609-10	CH-CCR-TWX3-1023	Dissolved	Water	200.8 LL	309967
MB 550-309967/1-A	Method Blank	Total/NA	Water	200.8 LL	309967
LCS 550-309967/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309967
LCSD 550-309967/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309967
550-209609-1 MS	CH-CCR-MW78A-1023	Total/NA	Water	200.8 LL	309967
550-209609-1 MSD	CH-CCR-MW78A-1023	Total/NA	Water	200.8 LL	309967

Analysis Batch: 310235

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-2	CH-CCR-MW78A-1023	Dissolved	Water	200.7	309969
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-4	CH-CCR-BAPTD-1023	Dissolved	Water	200.7	309969
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-6	CH-CCR-Petroglyph-1023	Dissolved	Water	200.7	309969
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-8	CH-CCR-TannerWash-1023	Dissolved	Water	200.7	309969
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-10	CH-CCR-TWX3-1023	Dissolved	Water	200.7	309969
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-12	CH-CCR-TWX5-1023	Dissolved	Water	200.7	309969
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-14	CH-CCR-TWX7-1023	Dissolved	Water	200.7	309969

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 310235 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-16	CH-CCR-TWX9-1023	Dissolved	Water	200.7	309969
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-18	CH-CCR-TWX10-1023	Dissolved	Water	200.7	309969
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-20	CH-CCR-EB01-1023	Dissolved	Water	200.7	309969
MB 550-309969/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	309969
LCS 550-309969/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	309969
LCSD 550-309969/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-3 MS	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-3 MSD	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969

Analysis Batch: 310541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	200.8 LL	309967
550-209609-12	CH-CCR-TWX5-1023	Dissolved	Water	200.8 LL	309967
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	200.8 LL	309967
550-209609-14	CH-CCR-TWX7-1023	Dissolved	Water	200.8 LL	309967
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	200.8 LL	309967
550-209609-16	CH-CCR-TWX9-1023	Dissolved	Water	200.8 LL	309967
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	200.8 LL	309967
550-209609-18	CH-CCR-TWX10-1023	Dissolved	Water	200.8 LL	309967
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	200.8 LL	309967
550-209609-20	CH-CCR-EB01-1023	Dissolved	Water	200.8 LL	309967
MB 550-309967/1-A	Method Blank	Total/NA	Water	200.8 LL	309967
LCS 550-309967/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	309967
LCSD 550-309967/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	309967
550-209609-1 MS	CH-CCR-MW78A-1023	Total/NA	Water	200.8 LL	309967
550-209609-1 MSD	CH-CCR-MW78A-1023	Total/NA	Water	200.8 LL	309967

Analysis Batch: 310603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-3 MS	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969
550-209609-3 MSD	CH-CCR-BAPTD-1023	Total/NA	Water	200.7 Rev 4.4	309969

Prep Batch: 379148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total Recoverable	Water	200.7	
550-209609-3	CH-CCR-BAPTD-1023	Total Recoverable	Water	200.7	
550-209609-5	CH-CCR-Petroglyph-1023	Total Recoverable	Water	200.7	
550-209609-7	CH-CCR-TannerWash-1023	Total Recoverable	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Prep Batch: 379148 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-9	CH-CCR-TWX3-1023	Total Recoverable	Water	200.7	
550-209609-11	CH-CCR-TWX5-1023	Total Recoverable	Water	200.7	
550-209609-13	CH-CCR-TWX7-1023	Total Recoverable	Water	200.7	
550-209609-15	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7	
550-209609-17	CH-CCR-TWX10-1023	Total Recoverable	Water	200.7	
550-209609-19	CH-CCR-EB01-1023	Total Recoverable	Water	200.7	
MB 570-379148/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-379148/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-379148/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
550-209609-15 MS	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7	
550-209609-15 MSD	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7	

Analysis Batch: 379787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-3	CH-CCR-BAPTD-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-5	CH-CCR-Petroglyph-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-7	CH-CCR-TannerWash-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-9	CH-CCR-TWX3-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-11	CH-CCR-TWX5-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-13	CH-CCR-TWX7-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-15	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-17	CH-CCR-TWX10-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-19	CH-CCR-EB01-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
MB 570-379148/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	379148
LCS 570-379148/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	379148
LCSD 570-379148/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-15 MS	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7 Rev 4.4	379148
550-209609-15 MSD	CH-CCR-TWX9-1023	Total Recoverable	Water	200.7 Rev 4.4	379148

General Chemistry

Analysis Batch: 310111

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	SM 2540C	
MB 550-310111/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-310111/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-310111/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209609-1 DU	CH-CCR-MW78A-1023	Total/NA	Water	SM 2540C	

Analysis Batch: 310120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	SM 2540C	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	SM 2540C	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	SM 2540C	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	SM 2540C	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	SM 2540C	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	SM 2540C	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	SM 2540C	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	SM 2540C	
MB 550-310120/1	Method Blank	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 310120 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-310120/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-310120/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209599-C-3 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 310142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	SM 4500 H+ B	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310142/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-310142/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-209609-1 DU	CH-CCR-MW78A-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 310159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	SM 2540C	
MB 550-310159/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-310159/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-310159/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-209578-K-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 310375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	350.1	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	350.1	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	350.1	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	350.1	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	350.1	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	350.1	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	350.1	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	350.1	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	350.1	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	350.1	
MB 550-310375/60	Method Blank	Total/NA	Water	350.1	
LCS 550-310375/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-310375/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-209609-1 MS	CH-CCR-MW78A-1023	Total/NA	Water	350.1	
550-209609-1 MSD	CH-CCR-MW78A-1023	Total/NA	Water	350.1	

Analysis Batch: 310379

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	SM 2320B	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	SM 2320B	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 310379 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	SM 2320B	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	SM 2320B	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	SM 2320B	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	SM 2320B	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	SM 2320B	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	SM 2320B	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	SM 2320B	
MB 550-310379/3	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-310379/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-310379/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-209609-1 DU	CH-CCR-MW78A-1023	Total/NA	Water	SM 2320B	

Analysis Batch: 310867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-2	CH-CCR-MW78A-1023	Dissolved	Water	SM 5310B	
550-209609-4	CH-CCR-BAPTD-1023	Dissolved	Water	SM 5310B	
550-209609-6	CH-CCR-Petroglyph-1023	Dissolved	Water	SM 5310B	
550-209609-8	CH-CCR-TannerWash-1023	Dissolved	Water	SM 5310B	
550-209609-20	CH-CCR-EB01-1023	Dissolved	Water	SM 5310B	
MB 550-310867/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-310867/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-310867/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209476-G-9 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-209476-J-9 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 311092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-10	CH-CCR-TWX3-1023	Dissolved	Water	SM 5310B	
550-209609-12	CH-CCR-TWX5-1023	Dissolved	Water	SM 5310B	
550-209609-14	CH-CCR-TWX7-1023	Dissolved	Water	SM 5310B	
550-209609-16	CH-CCR-TWX9-1023	Dissolved	Water	SM 5310B	
550-209609-18	CH-CCR-TWX10-1023	Dissolved	Water	SM 5310B	
MB 550-311092/3	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-311092/5	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-311092/6	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-209610-B-6 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-209610-C-6 MS	Matrix Spike	Dissolved	Water	SM 5310B	

Analysis Batch: 311093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	SM 5310B	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	SM 5310B	
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	SM 5310B	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	SM 5310B	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	SM 5310B	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	SM 5310B	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	SM 5310B	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	SM 5310B	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	SM 5310B	
MB 550-311093/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-311093/2	Lab Control Sample	Total/NA	Water	SM 5310B	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 311093 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-311093/3	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-209656-F-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-209656-G-1 MS ^2	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 631959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-1	CH-CCR-MW78A-1023	Total/NA	Water	353.2	
550-209609-3	CH-CCR-BAPTD-1023	Total/NA	Water	353.2	
550-209609-5	CH-CCR-Petroglyph-1023	Total/NA	Water	353.2	
MB 280-631959/104	Method Blank	Total/NA	Water	353.2	
MB 280-631959/60	Method Blank	Total/NA	Water	353.2	
LCS 280-631959/103	Lab Control Sample	Total/NA	Water	353.2	
550-209610-G-11 MS	Matrix Spike	Total/NA	Water	353.2	
550-209610-G-11 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Analysis Batch: 632151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-209609-7	CH-CCR-TannerWash-1023	Total/NA	Water	353.2	
550-209609-9	CH-CCR-TWX3-1023	Total/NA	Water	353.2	
550-209609-11	CH-CCR-TWX5-1023	Total/NA	Water	353.2	
550-209609-13	CH-CCR-TWX7-1023	Total/NA	Water	353.2	
550-209609-15	CH-CCR-TWX9-1023	Total/NA	Water	353.2	
550-209609-17	CH-CCR-TWX10-1023	Total/NA	Water	353.2	
550-209609-19	CH-CCR-EB01-1023	Total/NA	Water	353.2	
MB 280-632151/23	Method Blank	Total/NA	Water	353.2	
LCS 280-632151/21	Lab Control Sample	Total/NA	Water	353.2	
LCSD 280-632151/22	Lab Control Sample Dup	Total/NA	Water	353.2	
550-209609-17 MS	CH-CCR-TWX10-1023	Total/NA	Water	353.2	
550-209609-17 MSD	CH-CCR-TWX10-1023	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-1

Date Collected: 10/23/23 13:00

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 13:54
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 14:22
Total/NA	Analysis	9056A		1	310211	SMA	EET PHX	10/30/23 13:54
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:41
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:06
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:25
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:20
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:45
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:26
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:35
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 12:20
Total/NA	Analysis	SM 2540C		1	310111	KMG	EET PHX	10/27/23 12:51 - 11/01/23 10:56 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 12:54

Client Sample ID: CH-CCR-MW78A-1023

Lab Sample ID: 550-209609-2

Date Collected: 10/23/23 13:00

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:08
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:22
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 22:29

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-3

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 14:50
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 15:18
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:44
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:00
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:22

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-3

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:24
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:43
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:31
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:37
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 12:34
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 12:56
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 01:15

Client Sample ID: CH-CCR-BAPTD-1023

Lab Sample ID: 550-209609-4

Date Collected: 10/24/23 08:42

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:03
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:26
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 22:49

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-5

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 15:46
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 16:14
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:46
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:11
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:28
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:28
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:33
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:32
Total/NA	Analysis	353.2		1	631959	BCR	EET DEN	10/31/23 16:51
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 12:41
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-5

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 12:57
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 01:36

Client Sample ID: CH-CCR-Petroglyph-1023

Lab Sample ID: 550-209609-6

Date Collected: 10/24/23 09:09

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:14
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:30
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 23:06

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-7

Date Collected: 10/24/23 09:28

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		10	310211	SMA	EET PHX	10/30/23 18:06
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 18:34
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:48
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:17
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:31
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:32
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:47
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:34
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:13
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 12:47
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 12:58
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 01:57

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TannerWash-1023

Lab Sample ID: 550-209609-8

Date Collected: 10/24/23 09:28

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:20
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:34
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 23:27

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-9

Date Collected: 10/24/23 10:07

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 19:02
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 19:30
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:51
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:23
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:34
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:36
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:49
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:35
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:15
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 12:54
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 12:59
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 02:13

Client Sample ID: CH-CCR-TWX3-1023

Lab Sample ID: 550-209609-10

Date Collected: 10/24/23 10:07

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:26
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		1	310202	DSJ	EET PHX	10/27/23 19:38
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 16:43

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-11

Date Collected: 10/24/23 10:25

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 19:58
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 20:26
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:53
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:34
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:37
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 14:55
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:51
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:37
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:17
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:00
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 13:00
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 02:34

Client Sample ID: CH-CCR-TWX5-1023

Lab Sample ID: 550-209609-12

Date Collected: 10/24/23 10:25

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:37
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 14:57
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 17:45

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-13

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 20:54
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 21:22
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:56
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:40
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:39

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-13

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 14:59
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:53
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:38
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:19
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:07
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 13:01
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 02:55

Client Sample ID: CH-CCR-TWX7-1023

Lab Sample ID: 550-209609-14

Date Collected: 10/24/23 10:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:43
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 15:01
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 18:02

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-15

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/30/23 21:50
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/30/23 23:42
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 13:58
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:45
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:42
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 15:03
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:55
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:40
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:33
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:13
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-15

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 13:02
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 03:11

Client Sample ID: CH-CCR-TWX9-1023

Lab Sample ID: 550-209609-16

Date Collected: 10/24/23 15:41

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:48
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 15:54
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 18:18

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-17

Date Collected: 10/24/23 15:59

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/31/23 00:10
Total/NA	Analysis	300.0		100	310211	SMA	EET PHX	10/31/23 00:38
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		2	379787	K1UV	EET CAL 4	11/02/23 14:19
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:51
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:45
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 15:56
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:57
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:41
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:37
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:20
Total/NA	Analysis	SM 2540C		1	310120	KMG	EET PHX	10/27/23 15:46 - 11/02/23 10:50 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 13:03
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 03:28

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-1023

Lab Sample ID: 550-209609-18

Date Collected: 10/24/23 15:59

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 01:54
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 15:58
Dissolved	Analysis	SM 5310B		1	311092	SMA	EET PHX	11/13/23 18:39

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-19

Date Collected: 10/25/23 08:15

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	310211	SMA	EET PHX	10/31/23 05:45
Total Recoverable	Prep	200.7			379148	JP8N	EET CAL 4	11/01/23 07:39
Total Recoverable	Analysis	200.7 Rev 4.4		1	379787	K1UV	EET CAL 4	11/02/23 14:22
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		1	310235	GLW	EET PHX	10/31/23 01:57
Total/NA	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Total/NA	Analysis	200.7 Rev 4.4		10	310603	GLW	EET PHX	11/06/23 13:48
Total/NA	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Total/NA	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 16:00
Total/NA	Prep	245.1			310101	HHL	EET PHX	10/27/23 11:38
Total/NA	Analysis	245.1		1	310123	HHL	EET PHX	10/27/23 15:59
Total/NA	Analysis	350.1		1	310375	MAN	EET PHX	11/01/23 13:43
Total/NA	Analysis	353.2		1	632151	BCR	EET DEN	11/01/23 14:35
Total/NA	Analysis	SM 2320B		1	310379	MAN	EET PHX	11/01/23 13:26
Total/NA	Analysis	SM 2540C		1	310159	KMG	EET PHX	10/30/23 09:33 - 11/01/23 13:00 ¹
Total/NA	Analysis	SM 4500 H+ B		1	310142	MAN	EET PHX	10/29/23 13:04
Total/NA	Analysis	SM 5310B		1	311093	SMA	EET PHX	11/14/23 03:48

Client Sample ID: CH-CCR-EB01-1023

Lab Sample ID: 550-209609-20

Date Collected: 10/25/23 08:15

Matrix: Water

Date Received: 10/25/23 13:44

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			309969	SGO	EET PHX	10/26/23 05:56
Dissolved	Analysis	200.7		1	310235	GLW	EET PHX	10/31/23 02:00
Dissolved	Prep	200.8			309967	SGO	EET PHX	10/26/23 05:13
Dissolved	Analysis	200.8 LL		5	310541	DSJ	EET PHX	11/03/23 16:02
Dissolved	Analysis	SM 5310B		1	310867	SMA	EET PHX	11/08/23 23:51

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
 EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
 EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-23 *

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-20-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-209609-1
 SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
9056A	Anions, Ion Chromatography	SW846	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	EET PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	EET PHX
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

209609

TestAmerica Laboratories, Inc.

Client Contact: **Natalie Chrisman** (602) 250-3608
 Analysis Turnaround Time: CALENDAR DAYS WORKING DAYS
 TAT if different from Below: 2 weeks 1 week 2 days 1 day

Arizona Public Service 4801 Cholla Lake Rd Joseph City, AZ 86032 (928) 587-0319
 Project Name: CCR Groundwater Monitoring
 Site: APS Cholla Power Plant (BAP)
 PO #: 300592358

Regulatory Program: DW NPDES RCRA Other: **CCR**

Lab Contact: **Danielle Roberts** (505) 598-8781
 Date: _____ Carrier: _____
 COC No: **2** of **2** COCs

Sampler: _____
 For Lab Use Only: _____
 Walk-in Client: _____
 Lab Sampling: _____
 Job / SDG No.: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Total Lithium	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5410B (TOC)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	353.2 (NO3+NO2 as N)	SM 2320B (CO3 Alk. as CaCO3)	SM 2320B (HCO3 Alk. as CaCO3)	Sample Specific Notes:
CH-CGR-BAPTD-1023	10/24/23	842	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CGR-Petroglyph-1023	10/24/23	909	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TannerWash-1023	10/24/23	928	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TWX3-1023	10/24/23	1007	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TWX5-1023	10/24/23	1025	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TWX7-1023	10/24/23	1041	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TWX9-1023	10/24/23	1541	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-TWX10-1023	10/24/23	1559	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CGR-EB01-1023	10/25/23	815	G	W	14	*	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Equipment Blank

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other
 Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown
 Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
 Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No
 Custody Seal No.: _____ Cooler Temp. (°C): Obsd.: _____ Therm ID No.: _____

Relinquished by: **ASCC** Company: **WSP** Date/Time: **10-23-23 1344**
 Received by: _____ Date/Time: _____
 Received in Laboratory by: **JCS** Date/Time: _____

Relinquished by: _____ Company: _____ Date/Time: _____
 Received in Laboratory by: **ETX PHX** Date/Time: **10/25/23 1344**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

159469-434 MTW EXP 04/24



550-209609 Waybill

ORIGIN ID: INWA (602) 437-3340
TESTAMERICA-PHOENIX
TESTAMERICA
4625 E COTTON CENTER BLVD
SUITE 109
PHOENIX, AZ 85040
UNITED STATES US

SHIP DATE: 26OCT23
ACTWGT: 48.10 LB MAN
CAD: 0875926/CAFE3755
DIMS: 25x14x13 IN

BILL RECIPIENT

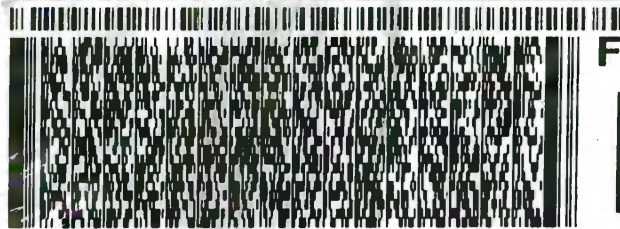
TO SHIPPING/RECEIVING
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 896-5494
PO: YES

REF: 8550-86764

DEPT: SAMPLE RECEIVING



FedEx
Express



J233023051201 00

TRK# 6388 9413 2894
0201

FRI - 27 OCT 10:30A
PRIORITY OVERNIGHT

QZ DTHA

92780
CA-US SNA



RT 678
ST 5.2
5 10:30
D
2894
10.27

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- 12
- 13
- 14

Eurofins Phoenix

4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record



Environmental Testing

Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):		COC No:	
Client Contact: Shipping/Receiving		Phone:	Eshelman, Linda	State of Origin: Arizona		550-38110-1	
Company: TestAmerica Laboratories, Inc.		E-Mail: linda.eshelman@et.eurofins.com		Page 1 of 2			
Address: 4955 Yarrow Street,		Accreditations Required (See note): State - Arizona; State Program - Arizona		Job #:		550-209609-1	
City: Arivada	State, Zip: CO, 80002	PO #:	Analysis Requested				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	Email:	WO #:	Total Number of Containers				
Project Name: CCR Groundwater Monitoring	Project #: 55009651	SSOW#:	Preservation Codes:				
Site: Arizona Public Service			M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify) Other:				
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=wastewat, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	Special Instructions/Note:
CH-CCR-MW78A-1023 (550-209609-1)	10/23/23	13:00 Arizona	Water	Water	X	X	
CH-CCR-BAPTD-1023 (550-209609-3)	10/24/23	08:42 Arizona	Water	Water	X	X	
CH-CCR-Petroglyph-1023 (550-209609-5)	10/24/23	09:09 Arizona	Water	Water	X	X	
CH-CCR-TannerWash-1023 (550-209609-7)	10/24/23	09:28 Arizona	Water	Water	X	X	
CH-CCR-TWX3-1023 (550-209609-9)	10/24/23	10:07 Arizona	Water	Water	X	X	
CH-CCR-TWX5-1023 (550-209609-11)	10/24/23	10:25 Arizona	Water	Water	X	X	
CH-CCR-TWX7-1023 (550-209609-13)	10/24/23	10:41 Arizona	Water	Water	X	X	
CH-CCR-TWX9-1023 (550-209609-15)	10/24/23	15:41 Arizona	Water	Water	X	X	
CH-CCR-TWX10-1023 (550-209609-17)	10/24/23	15:59 Arizona	Water	Water	X	X	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte, & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification

Unconfirmed Return To Client Disposal By Lab Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *Greg 10-26-23* Date/Time: 15:30 Company: *ETSW*

Relinquished by: *Fedex* Date/Time: 10/27/23 0945 Company: *ETSW*

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: _____ Custody Seal No.: _____

Δ Yes Δ No

Cooler Temperature (°C) and Other Remarks: *0.7 CF 0.3 R Momo*

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209609-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209609

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209609-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209609

List Number: 2

Creator: Khana, Piyush

List Source: Eurofins Calscience

List Creation: 10/27/23 12:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2219810
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-209609-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 209609

List Number: 3

Creator: Martinez, Anthony

List Source: Eurofins Denver

List Creation: 10/28/23 01:12 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/22/2023 11:43:41 AM

JOB DESCRIPTION

CCR Groundwater Monitoring

JOB NUMBER

550-210901-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
12/22/2023 11:43:41 AM

Authorized for release by
Linda Eshelman, Project Manager II
linda.eshelman@et.eurofinsus.com
(602)659-7681



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Case Narrative

Client: Arizona Public Service Company
Project: CCR Groundwater Monitoring

Job ID: 550-210901-1

Job ID: 550-210901-1

Eurofins Phoenix

Job Narrative 550-210901-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/22/2023 9:14 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

Subcontract Work

Methods DOC (Field Filtered), Total Organic Carbon: These methods were subcontracted to Legend Technical Services of Arizona Inc. The subcontract laboratory certifications are different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

HPLC/IC

Method 300_ORGFMS: The following sample was diluted due to the nature of the sample matrix: CH-CCR-W305-1023 (550-210901-1). Elevated reporting limits (RLs) are provided. The following samples require a 2x dilution in order to preserve instrumentation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-210901-1	CH-CCR-W305-1023	Water	11/21/23 11:20	11/22/23 09:14
550-210901-2	CH-CCR-W305-1023	Water	11/21/23 11:20	11/22/23 09:14
550-210901-3	CH-CCR-TWX6-1023	Water	11/21/23 13:23	11/22/23 09:14
550-210901-4	CH-CCR-TWX6-1023	Water	11/21/23 13:23	11/22/23 09:14

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Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2300	D2	400	mg/L	200		300.0	Total/NA
Boron	0.45		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.32		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.5		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	1.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Lithium	0.25		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0021		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.012	R4	0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00012		0.00010	mg/L	1		200.8 LL	Total/NA
Cobalt	0.019		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.0020		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.024	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Thallium	0.00024		0.00010	mg/L	1		200.8 LL	Total/NA
Ammonia	0.14		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000		100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.30		0.10	mg/L	1		200.7	Dissolved
Manganese	6.6		0.010	mg/L	1		200.7	Dissolved
Arsenic	2.3		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	22		0.50	ug/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	mg/L	200		300.0	Total/NA
Fluoride	2.6	D2	0.80	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	mg/L	200		300.0	Total/NA
Boron	3.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.55		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.8		0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2200		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Lithium	0.20		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0083		0.00050	mg/L	1		200.8 LL	Total/NA
Barium	0.016		0.00050	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00074		0.00010	mg/L	1		200.8 LL	Total/NA
Chromium	0.025		0.0010	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-TWX6-1023 (Continued)

Lab Sample ID: 550-210901-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.027		0.00050	mg/L	1		200.8 LL	Total/NA
Lead	0.0030		0.00050	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.066	T5	0.00050	mg/L	1		200.8 LL	Total/NA
Ammonia	0.33		0.050	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	70		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	70		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.4		0.010	mg/L	1		200.7	Dissolved
Arsenic	5.9		0.50	ug/L	1		200.8 LL	Dissolved
Cobalt	26		0.50	ug/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-1

Date Collected: 11/21/23 11:20

Matrix: Water

Date Received: 11/22/23 09:14

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	mg/L			12/11/23 16:15	200
Fluoride	ND	D1 D5	0.80	mg/L			12/11/23 15:56	2
Sulfate	2300	D2	400	mg/L			12/11/23 16:15	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/04/23 20:27	1
Boron	0.45		0.050	mg/L		11/27/23 09:06	12/04/23 20:27	1
Calcium	720		2.0	mg/L		11/27/23 09:06	12/04/23 20:27	1
Iron	0.32		0.10	mg/L		11/27/23 09:06	12/04/23 20:27	1
Magnesium	120		2.0	mg/L		11/27/23 09:06	12/04/23 20:27	1
Manganese	6.5		0.010	mg/L		11/27/23 09:06	12/04/23 20:27	1
Potassium	1.8		0.50	mg/L		11/27/23 09:06	12/04/23 20:27	1
Sodium	2300		2.5	mg/L		11/27/23 09:06	12/05/23 09:00	5

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.25		0.050	mg/L		11/29/23 06:35	11/29/23 20:27	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:47	1
Arsenic	0.0021		0.00050	mg/L		11/29/23 06:26	12/01/23 14:47	1
Barium	0.012	R4	0.00050	mg/L		11/29/23 06:26	12/01/23 14:47	1
Cadmium	0.00012		0.00010	mg/L		11/29/23 06:26	12/01/23 14:47	1
Chromium	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:47	1
Cobalt	0.019		0.00050	mg/L		11/29/23 06:26	12/01/23 14:47	1
Lead	0.0020		0.00050	mg/L		11/29/23 06:26	12/01/23 14:47	1
Molybdenum	0.024	T5	0.00050	mg/L		11/29/23 06:26	12/01/23 14:47	1
Selenium	ND		0.010	mg/L		11/29/23 06:26	12/20/23 10:20	20
Thallium	0.00024		0.00010	mg/L		11/29/23 06:26	12/01/23 14:47	1

Method: EPA 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/30/23 12:14	11/30/23 16:07	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.14		0.050	mg/L			11/27/23 12:22	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			12/05/23 16:46	1
Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			11/30/23 15:27	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/30/23 15:27	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	100		6.0	mg/L			11/30/23 15:27	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/30/23 15:27	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/30/23 15:27	1
Total Dissolved Solids (SM 2540C)	7000		100	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.4	H5	1.7	SU			11/29/23 13:16	1
Temperature (SM 4500 H+ B)	10.4	H5 T5	0.1	Degrees C			11/29/23 13:16	1

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-2

Date Collected: 11/21/23 11:20

Matrix: Water

Date Received: 11/22/23 09:14

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.30		0.10	mg/L		11/27/23 09:06	12/04/23 20:29	1
Manganese	6.6		0.010	mg/L		11/27/23 09:06	12/04/23 20:29	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.3		0.50	ug/L		11/29/23 06:26	12/01/23 14:49	1
Cobalt	22		0.50	ug/L		11/29/23 06:26	12/01/23 14:49	1

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-3

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	mg/L			12/11/23 16:51	200
Fluoride	2.6	D2	0.80	mg/L			12/11/23 16:33	2
Sulfate	3000	D2	400	mg/L			12/11/23 16:51	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/04/23 20:32	1
Boron	3.9		0.050	mg/L		11/27/23 09:06	12/04/23 20:32	1
Calcium	690		2.0	mg/L		11/27/23 09:06	12/04/23 20:32	1
Iron	0.55		0.10	mg/L		11/27/23 09:06	12/04/23 20:32	1
Magnesium	250		2.0	mg/L		11/27/23 09:06	12/04/23 20:32	1
Manganese	4.8		0.010	mg/L		11/27/23 09:06	12/04/23 20:32	1
Potassium	12		0.50	mg/L		11/27/23 09:06	12/04/23 20:32	1
Sodium	2200		2.5	mg/L		11/27/23 09:06	12/05/23 08:57	5

Method: EPA 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.050	mg/L		11/29/23 06:35	11/29/23 20:35	1

Method: EPA 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:51	1
Arsenic	0.0083		0.00050	mg/L		11/29/23 06:26	12/01/23 14:51	1
Barium	0.016		0.00050	mg/L		11/29/23 06:26	12/01/23 14:51	1
Cadmium	0.00074		0.00010	mg/L		11/29/23 06:26	12/01/23 14:51	1
Chromium	0.025		0.0010	mg/L		11/29/23 06:26	12/01/23 14:51	1
Cobalt	0.027		0.00050	mg/L		11/29/23 06:26	12/01/23 14:51	1
Lead	0.0030		0.00050	mg/L		11/29/23 06:26	12/01/23 14:51	1
Molybdenum	0.066	T5	0.00050	mg/L		11/29/23 06:26	12/01/23 14:51	1
Selenium	ND		0.010	mg/L		11/29/23 06:26	12/20/23 10:22	20
Thallium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (EPA 350.1)	0.33		0.050	mg/L			11/27/23 12:23	1
Nitrate Nitrite as N (EPA 353.2)	ND		0.10	mg/L			12/05/23 16:48	1
Alkalinity as CaCO3 (SM 2320B)	70		6.0	mg/L			11/30/23 15:32	1

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Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-3

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			11/30/23 15:32	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	70		6.0	mg/L			11/30/23 15:32	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/30/23 15:32	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			11/30/23 15:32	1
Total Dissolved Solids (SM 2540C)	7600		100	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			11/29/23 13:18	1
Temperature (SM 4500 H+ B)	11.6	H5 T5	0.1	Degrees C			11/29/23 13:18	1

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-4

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

Method: EPA 200.7 - Dissolved Metals by ICP - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10	mg/L		11/27/23 09:06	12/04/23 20:35	1
Manganese	4.4		0.010	mg/L		11/27/23 09:06	12/04/23 20:35	1

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.9		0.50	ug/L		11/29/23 06:26	12/01/23 14:53	1
Cobalt	26		0.50	ug/L		11/29/23 06:26	12/01/23 14:53	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-312541/2
 Matrix: Water
 Analysis Batch: 312541

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			12/11/23 13:29	1
Fluoride	ND		0.40	mg/L			12/11/23 13:29	1
Sulfate	ND		2.0	mg/L			12/11/23 13:29	1

Lab Sample ID: LCS 550-312541/5
 Matrix: Water
 Analysis Batch: 312541

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		100	90 - 110
Fluoride	4.00	3.85		mg/L		96	90 - 110
Sulfate	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-312541/6
 Matrix: Water
 Analysis Batch: 312541

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.85		mg/L		96	90 - 110	0	20
Sulfate	20.0	19.9		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-210912-D-1 MS
 Matrix: Water
 Analysis Batch: 312541

Client Sample ID: Matrix Spike
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		290	80 - 120
Fluoride	ND		4.00	3.93		mg/L		95	80 - 120
Sulfate	320	E2 M3	20.0	318	E2 M3	mg/L		10	80 - 120

Lab Sample ID: 550-210912-D-1 MSD
 Matrix: Water
 Analysis Batch: 312541

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		291	80 - 120	0	20
Fluoride	ND		4.00	4.10		mg/L		100	80 - 120	4	20
Sulfate	320	E2 M3	20.0	319	E2 M3	mg/L		12	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-311692/1-A
 Matrix: Water
 Analysis Batch: 312190

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 311692

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	mg/L		11/27/23 09:06	12/04/23 19:58	1
Boron	ND		0.050	mg/L		11/27/23 09:06	12/04/23 19:58	1
Calcium	ND		2.0	mg/L		11/27/23 09:06	12/04/23 19:58	1

Eurofins Phoenix

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-311692/1-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311692

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Iron	ND		0.10	mg/L		11/27/23 09:06	12/04/23 19:58	1
Magnesium	ND		2.0	mg/L		11/27/23 09:06	12/04/23 19:58	1
Manganese	ND		0.010	mg/L		11/27/23 09:06	12/04/23 19:58	1
Potassium	ND		0.50	mg/L		11/27/23 09:06	12/04/23 19:58	1
Sodium	ND		0.50	mg/L		11/27/23 09:06	12/04/23 19:58	1

Lab Sample ID: LCS 550-311692/2-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Beryllium	1.00	1.01		mg/L		101	85 - 115
Boron	1.00	1.07		mg/L		107	85 - 115
Calcium	21.0	21.7		mg/L		103	85 - 115
Iron	1.00	0.960		mg/L		96	85 - 115
Magnesium	21.0	21.4		mg/L		102	85 - 115
Manganese	1.00	1.03		mg/L		103	85 - 115
Potassium	20.0	20.1		mg/L		101	85 - 115
Sodium	20.0	20.1		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-311692/3-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Beryllium	1.00	1.01		mg/L		101	85 - 115	0	20
Boron	1.00	1.06		mg/L		106	85 - 115	1	20
Calcium	21.0	21.6		mg/L		103	85 - 115	0	20
Iron	1.00	0.949		mg/L		95	85 - 115	1	20
Magnesium	21.0	21.3		mg/L		101	85 - 115	0	20
Manganese	1.00	1.02		mg/L		102	85 - 115	1	20
Potassium	20.0	20.0		mg/L		100	85 - 115	0	20
Sodium	20.0	20.0		mg/L		100	85 - 115	0	20

Lab Sample ID: 550-210926-B-2-A MS
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
Beryllium	ND		1.00	1.05		mg/L		105	70 - 130
Boron	0.53		1.00	1.60		mg/L		108	70 - 130
Calcium	90		21.0	107	M3	mg/L		80	70 - 130
Iron	0.62		1.00	1.59		mg/L		97	70 - 130
Magnesium	32		21.0	52.3		mg/L		95	70 - 130
Manganese	0.063		1.00	1.08		mg/L		102	70 - 130
Potassium	3.5		20.0	25.9		mg/L		112	70 - 130
Sodium	920	E2 M3	20.0	893	E2 M3	mg/L		-134	70 - 130

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-210926-B-2-B MSD

Matrix: Water

Analysis Batch: 312190

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 311692

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Beryllium	ND		1.00	1.07		mg/L		107	70 - 130	2	20
Boron	0.53		1.00	1.59		mg/L		107	70 - 130	1	20
Calcium	90		21.0	109	M3	mg/L		88	70 - 130	2	20
Iron	0.62		1.00	1.61		mg/L		99	70 - 130	1	20
Magnesium	32		21.0	53.1		mg/L		99	70 - 130	2	20
Manganese	0.063		1.00	1.07		mg/L		101	70 - 130	1	20
Potassium	3.5		20.0	26.5		mg/L		115	70 - 130	2	20
Sodium	920	E2 M3	20.0	903	E2 M3	mg/L		-83	70 - 130	1	20

Lab Sample ID: MB 570-387575/1-A

Matrix: Water

Analysis Batch: 387924

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 387575

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil
	Result	Qualifier						
Lithium	ND		0.050	mg/L		11/29/23 06:35	11/29/23 20:13	1

Lab Sample ID: LCS 570-387575/2-A

Matrix: Water

Analysis Batch: 387924

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 387575

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec
		Result	Qualifier				Limits
Lithium	0.500	0.519		mg/L		104	85 - 115

Lab Sample ID: LCSD 570-387575/3-A

Matrix: Water

Analysis Batch: 387924

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 387575

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec	RPD	Limit
		Result	Qualifier				Limits		
Lithium	0.500	0.524		mg/L		105	85 - 115	1	20

Lab Sample ID: 570-162250-B-1-B MS

Matrix: Water

Analysis Batch: 387924

Client Sample ID: Matrix Spike

Prep Type: Total Recoverable

Prep Batch: 387575

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				Limits
Lithium	0.11		0.500	0.607		mg/L		99	80 - 120

Lab Sample ID: 570-162250-B-1-C MSD

Matrix: Water

Analysis Batch: 387924

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total Recoverable

Prep Batch: 387575

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Lithium	0.11		0.500	0.599		mg/L		97	80 - 120	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-311836/1-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311836

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Antimony	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Arsenic	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Barium	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Cadmium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Chromium	ND		0.0010	mg/L		11/29/23 06:26	12/01/23 14:33	1
Cobalt	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Lead	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Molybdenum	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Selenium	ND		0.00050	mg/L		11/29/23 06:26	12/01/23 14:33	1
Thallium	ND		0.00010	mg/L		11/29/23 06:26	12/01/23 14:33	1

Lab Sample ID: MB 550-311836/1-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311836

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Selenium	ND		0.00050	mg/L		11/29/23 06:26	12/20/23 10:07	1

Lab Sample ID: LCS 550-311836/2-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Arsenic	0.100	0.0892		mg/L		89	85 - 115
Barium	0.100	0.0899		mg/L		90	85 - 115
Cadmium	0.100	0.0914		mg/L		91	85 - 115
Chromium	0.100	0.0955		mg/L		95	85 - 115
Cobalt	0.100	0.0969		mg/L		97	85 - 115
Lead	0.100	0.0943		mg/L		94	85 - 115
Molybdenum	0.100	0.0976		mg/L		98	85 - 115
Thallium	0.100	0.0937		mg/L		94	85 - 115

Lab Sample ID: LCS 550-311836/2-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
Antimony	0.100	0.0967		mg/L		97	85 - 115	2	20
Arsenic	0.100	0.0910		mg/L		91	85 - 115	2	20
Barium	0.100	0.0913		mg/L		91	85 - 115	2	20
Cadmium	0.100	0.0935		mg/L		94	85 - 115	2	20

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 312165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
									RPD	Limit
Chromium	0.100	0.0986		mg/L		99	85 - 115	3	20	
Cobalt	0.100	0.101		mg/L		101	85 - 115	4	20	
Lead	0.100	0.0969		mg/L		97	85 - 115	3	20	
Molybdenum	0.100	0.101		mg/L		101	85 - 115	4	20	
Thallium	0.100	0.0972		mg/L		97	85 - 115	4	20	

Lab Sample ID: LCSD 550-311836/3-A
Matrix: Water
Analysis Batch: 313057

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
									RPD	Limit
Selenium	0.100	0.0942		mg/L		94	85 - 115	1	20	

Lab Sample ID: 550-210901-1 MS
Matrix: Water
Analysis Batch: 312165

Client Sample ID: CH-CCR-W305-1023
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit	
										RPD	Limit
Antimony	ND		0.100	0.0994		mg/L		99	70 - 130		
Arsenic	0.0021		0.100	0.111		mg/L		109	70 - 130		
Barium	0.012	R4	0.100	0.0942		mg/L		83	70 - 130		
Cadmium	0.00012		0.100	0.0877		mg/L		88	70 - 130		
Chromium	ND		0.100	0.110		mg/L		109	70 - 130		
Cobalt	0.019		0.100	0.129		mg/L		110	70 - 130		
Lead	0.0020		0.100	0.0886		mg/L		87	70 - 130		
Molybdenum	0.024	T5	0.100	0.124		mg/L		100	70 - 130		
Thallium	0.00024		0.100	0.0895		mg/L		89	70 - 130		

Lab Sample ID: 550-210901-1 MS
Matrix: Water
Analysis Batch: 313057

Client Sample ID: CH-CCR-W305-1023
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit	
										RPD	Limit
Selenium	ND		0.100	0.0864		mg/L		86	70 - 130		

Lab Sample ID: 550-210901-1 MSD
Matrix: Water
Analysis Batch: 312165

Client Sample ID: CH-CCR-W305-1023
Prep Type: Total/NA
Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
											RPD	Limit
Antimony	ND		0.100	0.107		mg/L		107	70 - 130	8	20	
Arsenic	0.0021		0.100	0.116		mg/L		114	70 - 130	5	20	
Barium	0.012	R4	0.100	0.117	R4	mg/L		105	70 - 130	22	20	
Cadmium	0.00012		0.100	0.0924		mg/L		92	70 - 130	5	20	
Chromium	ND		0.100	0.116		mg/L		116	70 - 130	6	20	
Cobalt	0.019		0.100	0.137		mg/L		117	70 - 130	6	20	
Lead	0.0020		0.100	0.0972		mg/L		95	70 - 130	9	20	
Molybdenum	0.024	T5	0.100	0.132		mg/L		108	70 - 130	6	20	
Thallium	0.00024		0.100	0.0929		mg/L		93	70 - 130	4	20	

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-210901-1 MSD
 Matrix: Water
 Analysis Batch: 313057

Client Sample ID: CH-CCR-W305-1023
 Prep Type: Total/NA
 Prep Batch: 311836

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Selenium	ND		0.100	0.0835		mg/L		83	70 - 130	3	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-311413/1-E
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/30/23 12:14	11/30/23 15:34	1

Lab Sample ID: MB 550-311970/1-A
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	mg/L		11/30/23 12:14	11/30/23 15:15	1

Lab Sample ID: LCS 550-311970/2-A
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00448		mg/L		90	85 - 115

Lab Sample ID: LCSD 550-311970/3-A
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.00500	0.00446		mg/L		89	85 - 115	0	20

Lab Sample ID: 550-210774-I-2-D MS
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	ND		0.00500	0.00454		mg/L		91	70 - 130

Lab Sample ID: 550-210803-I-2-D MSD
 Matrix: Water
 Analysis Batch: 312029

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 311970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	ND		0.00500	0.00464		mg/L		93	70 - 130	1	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-311872/112
Matrix: Water
Analysis Batch: 311872

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.050	mg/L			11/27/23 12:10	1

Lab Sample ID: LCS 550-311872/113
Matrix: Water
Analysis Batch: 311872

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	1.00	0.976		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-311872/114
Matrix: Water
Analysis Batch: 311872

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	4	20

Lab Sample ID: 550-210907-C-1 MS
Matrix: Water
Analysis Batch: 311872

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	0.51		1.00	1.54		mg/L		103	90 - 110

Lab Sample ID: 550-210907-C-1 MSD
Matrix: Water
Analysis Batch: 311872

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Ammonia	0.51		1.00	1.45		mg/L		93	90 - 110	6	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 280-636207/105
Matrix: Water
Analysis Batch: 636207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			12/05/23 16:28	1

Lab Sample ID: LCS 280-636207/104
Matrix: Water
Analysis Batch: 636207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	5.00	4.74		mg/L		95	90 - 110

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: 280-184779-B-6 MS
Matrix: Water
Analysis Batch: 636207

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate Nitrite as N	3.3		4.00	7.20		mg/L		96	90 - 110

Lab Sample ID: 280-184779-B-6 MSD
Matrix: Water
Analysis Batch: 636207

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrate Nitrite as N	3.3		4.00	7.14		mg/L		95	90 - 110	1	10

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-312014/4
Matrix: Water
Analysis Batch: 312014

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			11/30/23 13:17	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			11/30/23 13:17	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/30/23 13:17	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			11/30/23 13:17	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			11/30/23 13:17	1

Lab Sample ID: LCS 550-312014/3
Matrix: Water
Analysis Batch: 312014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	242		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-312014/16
Matrix: Water
Analysis Batch: 312014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	240		mg/L		96	90 - 110	1	20

Lab Sample ID: 550-210915-H-1 DU
Matrix: Water
Analysis Batch: 312014

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	250		249		mg/L		0.3	20
Alkalinity, Phenolphthalein	120		120		mg/L		0.5	20
Bicarbonate Alkalinity as CaCO3	9.1		8.79		mg/L		4	20
Carbonate Alkalinity as CaCO3	240		240		mg/L		0.5	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-311774/1
 Matrix: Water
 Analysis Batch: 311774

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			11/28/23 10:33	1

Lab Sample ID: LCS 550-311774/2
 Matrix: Water
 Analysis Batch: 311774

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-311774/3
 Matrix: Water
 Analysis Batch: 311774

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	990		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-210882-A-1 DU
 Matrix: Water
 Analysis Batch: 311774

Client Sample ID: Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	200		188		mg/L		5	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-311913/37
 Matrix: Water
 Analysis Batch: 311913

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-311913/49
 Matrix: Water
 Analysis Batch: 311913

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-210901-1 DU
 Matrix: Water
 Analysis Batch: 311913

Client Sample ID: CH-CCR-W305-1023
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	H5	7.4		SU		0.1	5
Temperature	10.4	H5 T5	10.3		Degrees C		1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

HPLC/IC

Analysis Batch: 312541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	300.0	
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	300.0	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	300.0	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	300.0	
MB 550-312541/2	Method Blank	Total/NA	Water	300.0	
LCS 550-312541/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-312541/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-210912-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-210912-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Filtration Batch: 311413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-311413/1-E	Method Blank	Total/NA	Water	Filtration	

Prep Batch: 311692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.7	
550-210901-2	CH-CCR-W305-1023	Dissolved	Water	200.7	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.7	
550-210901-4	CH-CCR-TWX6-1023	Dissolved	Water	200.7	
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-210926-B-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-210926-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 311836

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.8	
550-210901-2	CH-CCR-W305-1023	Dissolved	Water	200.8	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.8	
550-210901-4	CH-CCR-TWX6-1023	Dissolved	Water	200.8	
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-210901-1 MS	CH-CCR-W305-1023	Total/NA	Water	200.8	
550-210901-1 MSD	CH-CCR-W305-1023	Total/NA	Water	200.8	

Prep Batch: 311970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	245.1	
MB 550-311413/1-E	Method Blank	Total/NA	Water	245.1	311413
MB 550-311970/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-311970/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-311970/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-210774-l-2-D MS	Matrix Spike	Total/NA	Water	245.1	
550-210803-l-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Metals

Analysis Batch: 312029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	245.1	311970
MB 550-311413/1-E	Method Blank	Total/NA	Water	245.1	311970
MB 550-311970/1-A	Method Blank	Total/NA	Water	245.1	311970
LCS 550-311970/2-A	Lab Control Sample	Total/NA	Water	245.1	311970
LCSD 550-311970/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	311970
550-210774-I-2-D MS	Matrix Spike	Total/NA	Water	245.1	311970
550-210803-I-2-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	311970

Analysis Batch: 312165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836
550-210901-2	CH-CCR-W305-1023	Dissolved	Water	200.8 LL	311836
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.8 LL	311836
550-210901-4	CH-CCR-TWX6-1023	Dissolved	Water	200.8 LL	311836
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8 LL	311836
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	311836
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	311836
550-210901-1 MS	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836
550-210901-1 MSD	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836

Analysis Batch: 312190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210901-2	CH-CCR-W305-1023	Dissolved	Water	200.7	311692
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210901-4	CH-CCR-TWX6-1023	Dissolved	Water	200.7	311692
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	311692
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	311692
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-B-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-B-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	311692

Analysis Batch: 312211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.7 Rev 4.4	311692

Analysis Batch: 313057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	200.8 LL	311836
MB 550-311836/1-A	Method Blank	Total/NA	Water	200.8 LL	311836
LCS 550-311836/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	311836
LCSD 550-311836/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	311836
550-210901-1 MS	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836
550-210901-1 MSD	CH-CCR-W305-1023	Total/NA	Water	200.8 LL	311836

Prep Batch: 387575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total Recoverable	Water	200.7	
550-210901-3	CH-CCR-TWX6-1023	Total Recoverable	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Metals (Continued)

Prep Batch: 387575 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 570-387575/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 570-387575/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
LCSD 570-387575/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7	
570-162250-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.7	
570-162250-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 387924

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total Recoverable	Water	200.7 Rev 4.4	387575
550-210901-3	CH-CCR-TWX6-1023	Total Recoverable	Water	200.7 Rev 4.4	387575
MB 570-387575/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	387575
LCS 570-387575/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	387575
LCSD 570-387575/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.7 Rev 4.4	387575
570-162250-B-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	387575
570-162250-B-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	387575

General Chemistry

Analysis Batch: 311774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	SM 2540C	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	SM 2540C	
MB 550-311774/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-311774/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-311774/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-210882-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 311872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	350.1	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	350.1	
MB 550-311872/112	Method Blank	Total/NA	Water	350.1	
LCS 550-311872/113	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-311872/114	Lab Control Sample Dup	Total/NA	Water	350.1	
550-210907-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-210907-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 311913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	SM 4500 H+ B	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-311913/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-311913/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-210901-1 DU	CH-CCR-W305-1023	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 312014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	SM 2320B	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	SM 2320B	
MB 550-312014/4	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-312014/3	Lab Control Sample	Total/NA	Water	SM 2320B	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

General Chemistry (Continued)

Analysis Batch: 312014 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-312014/16	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-210915-H-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 636207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210901-1	CH-CCR-W305-1023	Total/NA	Water	353.2	
550-210901-3	CH-CCR-TWX6-1023	Total/NA	Water	353.2	
MB 280-636207/105	Method Blank	Total/NA	Water	353.2	
LCS 280-636207/104	Lab Control Sample	Total/NA	Water	353.2	
280-184779-B-6 MS	Matrix Spike	Total/NA	Water	353.2	
280-184779-B-6 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-1

Date Collected: 11/21/23 11:20

Matrix: Water

Date Received: 11/22/23 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 15:56
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 16:15
Total Recoverable	Prep	200.7			387575	JP8N	EET CAL 4	11/29/23 06:35
Total Recoverable	Analysis	200.7 Rev 4.4		1	387924	P1R	EET CAL 4	11/29/23 20:27
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:27
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		5	312211	GLW	EET PHX	12/05/23 09:00
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 14:47
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		20	313057	DSJ	EET PHX	12/20/23 10:20
Total/NA	Prep	245.1			311970	HHL	EET PHX	11/30/23 12:14
Total/NA	Analysis	245.1		1	312029	HHL	EET PHX	11/30/23 16:07
Total/NA	Analysis	350.1		1	311872	MAN	EET PHX	11/27/23 12:22
Total/NA	Analysis	353.2		1	636207	BCR	EET DEN	12/05/23 16:46
Total/NA	Analysis	SM 2320B		1	312014	MAN	EET PHX	11/30/23 15:27
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	311913	MAN	EET PHX	11/29/23 13:16

Client Sample ID: CH-CCR-W305-1023

Lab Sample ID: 550-210901-2

Date Collected: 11/21/23 11:20

Matrix: Water

Date Received: 11/22/23 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Dissolved	Analysis	200.7		1	312190	GLW	EET PHX	12/04/23 20:29
Dissolved	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Dissolved	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 14:49

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-3

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 16:33
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 16:51
Total Recoverable	Prep	200.7			387575	JP8N	EET CAL 4	11/29/23 06:35
Total Recoverable	Analysis	200.7 Rev 4.4		1	387924	P1R	EET CAL 4	11/29/23 20:35
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:32
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		5	312211	GLW	EET PHX	12/05/23 08:57

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-3

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 14:51
Total/NA	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Total/NA	Analysis	200.8 LL		20	313057	DSJ	EET PHX	12/20/23 10:22
Total/NA	Analysis	350.1		1	311872	MAN	EET PHX	11/27/23 12:23
Total/NA	Analysis	353.2		1	636207	BCR	EET DEN	12/05/23 16:48
Total/NA	Analysis	SM 2320B		1	312014	MAN	EET PHX	11/30/23 15:32
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	311913	MAN	EET PHX	11/29/23 13:18

Client Sample ID: CH-CCR-TWX6-1023

Lab Sample ID: 550-210901-4

Date Collected: 11/21/23 13:23

Matrix: Water

Date Received: 11/22/23 09:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Dissolved	Analysis	200.7		1	312190	GLW	EET PHX	12/04/23 20:35
Dissolved	Prep	200.8			311836	SGO	EET PHX	11/29/23 06:26
Dissolved	Analysis	200.8 LL		1	312165	DSJ	EET PHX	12/01/23 14:53

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Legend AZ = Legend Technical Services Inc., 17631 N. 25th Ave., Phoenix, AZ 85023

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p>			
Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-24
California	Los Angeles County Sanitation Districts	10109	08-01-24
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	08-01-24
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	06-08-26
Washington	State	C916-18	10-11-24

Laboratory: Eurofins Denver

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0713	12-19-23

Method Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210901-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7	Dissolved Metals by ICP	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET CAL 4
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
245.1	Mercury (CVAA)	EPA	EET PHX
350.1	Nitrogen, Ammonia (Low Level)	EPA	EET PHX
353.2	Nitrogen, Nitrate-Nitrite	EPA	EET DEN
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
Subcontract	DOC (Field Filtered)	None	Legend AZ
Subcontract	Total Organic Carbon	None	Legend AZ
200.7	Preparation, Total Recoverable Metals	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX
245.1	Preparation, Mercury	EPA	EET PHX

Protocol References:

- EPA = US Environmental Protection Agency
- None = None
- SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

- EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
- EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
- EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340
- Legend AZ = Legend Technical Services Inc., 17631 N. 25th Ave., Phoenix, AZ 85023

20 December 2023

Linda Eshelman
Eurofins Environmental Testing Southwest
4625 E. Cotton Center Blvd. Building #3 Suite #189
Phoenix, AZ 85040

RE: TOC

Laboratory Work Order No.: 23L1173

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 12/08/23 09:16.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

LEGEND TECHNICAL SERVICES OF ARIZONA, INC.



Victoria B. Beckley
Client Services Representative

This laboratory report is confidential and is intended for the sole use of LEGEND and its client.

Eurofins Environmental Testing Southwest
4625 E. Cotton Center Blvd. Building #3 Suite #189
Phoenix, AZ 85040

Project: TOC
Project Number: 11/21/23
Project Manager: Linda Eshelman

Reported:
12/20/23 12:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
CH-CCR-W305-1023 (550-210901-2)	23L1173-01	Water	Grab	11/21/23 11:20	12/08/23 09:16
CH-CCR-TWX6-1023 (550-210901-3)	23L1173-02	Water	Grab	11/21/23 13:23	12/08/23 09:16
CH-CCR-TWX6-1023 (550-210901-4)	23L1173-03	Water	Grab	11/21/23 13:23	12/08/23 09:16

Sample Condition Upon Receipt:

Temperature: 0.10 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)0004, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
All samples were analyzed on a "wet" basis unless designated as "dry weight".

Eurofins Environmental Testing Southwest
4625 E. Cotton Center Blvd. Building #3 Suite #189
Phoenix, AZ 85040

Project: TOC
Project Number: 11/21/23
Project Manager: Linda Eshelman

Reported:
12/20/23 12:20

CH-CCR-W305-1023 (550-210901-2) (23L1173-01) Water (Grab) Sampled: 11/21/23 11:20 Received: 12/08/23 09:16

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Dissolved Organic Carbon	1.17	1.00	mg/L	1	B3L0393	11/21/23 11:20	12/12/23 14:25	FS	SM 5310 C	

CH-CCR-TWX6-1023 (550-210901-3) (23L1173-02) Water (Grab) Sampled: 11/21/23 13:23 Received: 12/08/23 09:16

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Total Organic Carbon	<1.00	1.00	mg/L	1	B3L0542	12/15/23 16:42	12/15/23 16:42	SRL	SM 5310 C	

CH-CCR-TWX6-1023 (550-210901-4) (23L1173-03) Water (Grab) Sampled: 11/21/23 13:23 Received: 12/08/23 09:16

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Analyst	Method	Notes
Legend Technical Services of Arizona, Inc.										
Inorganic Chemistry										
Dissolved Organic Carbon	1.31	1.00	mg/L	1	B3L0393	11/21/23 13:23	12/12/23 14:25	FS	SM 5310 C	

Inorganic Chemistry - Quality Control
Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0393 - NO PREP										
Blank (B3L0393-BLK1)				<i>Prepared & Analyzed: 12/12/23</i>						
Dissolved Organic Carbon	<1.00	1.00	mg/L							
LCS (B3L0393-BS1)				<i>Prepared & Analyzed: 12/12/23</i>						
Dissolved Organic Carbon	9.78	1.00	mg/L	10.0		98	80-120			
LCS Dup (B3L0393-BSD1)				<i>Prepared & Analyzed: 12/12/23</i>						
Dissolved Organic Carbon	9.73	1.00	mg/L	10.0		97	80-120	0.5	20	
Matrix Spike (B3L0393-MS1)				Source: 23L1328-71		<i>Prepared & Analyzed: 12/12/23</i>				
Dissolved Organic Carbon	11.1	1.00	mg/L	10.0	1.11	100	80-120			
Matrix Spike Dup (B3L0393-MSD1)				Source: 23L1328-71		<i>Prepared & Analyzed: 12/12/23</i>				
Dissolved Organic Carbon	11.1	1.00	mg/L	10.0	1.11	100	80-120	0	20	
Batch B3L0542 - NO PREP										
Blank (B3L0542-BLK1)				<i>Prepared & Analyzed: 12/15/23</i>						
Total Organic Carbon	<1.00	1.00	mg/L							
Blank (B3L0542-BLK2)				<i>Prepared & Analyzed: 12/15/23</i>						
Total Organic Carbon	<1.00	1.00	mg/L							
Blank (B3L0542-BLK3)				<i>Prepared & Analyzed: 12/15/23</i>						
Total Organic Carbon	<1.00	1.00	mg/L							
Blank (B3L0542-BLK4)				<i>Prepared & Analyzed: 12/15/23</i>						
Total Organic Carbon	<1.00	1.00	mg/L							



Inorganic Chemistry - Quality Control
Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0542 - NO PREP										
Blank (B3L0542-BLK5) <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	<1.00	1.00	mg/L							
LCS (B3L0542-BS1) <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	9.56	1.00	mg/L	10.0		96	80-120			
LCS (B3L0542-BS2) <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	9.56	1.00	mg/L	10.0		96	80-120			
LCS Dup (B3L0542-BSD1) <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	9.39	1.00	mg/L	10.0		94	80-120	2	20	
LCS Dup (B3L0542-BSD2) <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	9.55	1.00	mg/L	10.0		96	80-120	0.1	20	
Matrix Spike (B3L0542-MS1) <i>Prepared & Analyzed: 12/15/23</i> Source: 23L1031-01										
Total Organic Carbon	12.4	1.00	mg/L	10.0	2.20	102	80-120			
Matrix Spike (B3L0542-MS2) <i>Prepared & Analyzed: 12/15/23</i> Source: 23L1035-01										
Total Organic Carbon	11.0	1.00	mg/L	10.0	0.969	100	80-120			
Matrix Spike (B3L0542-MS3) <i>Prepared & Analyzed: 12/15/23</i> Source: 23L1066-01										
Total Organic Carbon	18.4	1.00	mg/L	10.0	9.89	85	80-120			
Matrix Spike (B3L0542-MS4) <i>Prepared & Analyzed: 12/15/23</i> Source: 23L1068-01										
Total Organic Carbon	17.0	1.00	mg/L	10.0	8.41	86	80-120			
Matrix Spike Dup (B3L0542-MSD1) <i>Prepared & Analyzed: 12/15/23</i> Source: 23L1031-01										
Total Organic Carbon	12.3	1.00	mg/L	10.0	2.20	101	80-120	0.8	20	

Inorganic Chemistry - Quality Control
Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L0542 - NO PREP										
Matrix Spike Dup (B3L0542-MSD2) Source: 23L1035-01 <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	11.0	1.00	mg/L	10.0	0.969	100	80-120	0	20	
Matrix Spike Dup (B3L0542-MSD3) Source: 23L1066-01 <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	18.4	1.00	mg/L	10.0	9.89	85	80-120	0	20	
Matrix Spike Dup (B3L0542-MSD4) Source: 23L1068-01 <i>Prepared & Analyzed: 12/15/23</i>										
Total Organic Carbon	17.0	1.00	mg/L	10.0	8.41	86	80-120	0	20	



Eurofins Environmental Testing Southwest
4625 E. Cotton Center Blvd. Building #3 Suite #189
Phoenix, AZ 85040

Project: TOC
Project Number: 11/21/23
Project Manager: Linda Eshelman

Reported:
12/20/23 12:20

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Notes and Definitions

BLK Method Blank
LCS/Dup Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup Matrix Spike/Duplicate
Dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

Chain of Custody Record



23L1173



PM: Victoria B. Beckley

Sampler: Lab PM: Eshelman, Linda
 Phone: E-Mail: linda.eshelman@et.eurofins.com
 Arizona
 State of Origin: Arizona
 Carrier Tracking No(s): 550-38366.1
 Page: Page 1 of 1
 Job #: 550-210901-1
 Preservation Codes:
 M - Hexane
 N - None
 O - AshNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Y - Trizma
 Z - other (specify)
 Other:

Due Date Requested: 12/6/2023
 TAT Requested (days):
 PO #:
 WO #:
 Project #: 55009651
 SSO#:
 City: Phoenix
 State, Zip: AZ, 85023
 Phone:
 Email:
 Project Name: CCR Groundwater Monitoring
 Site: Arizona Public Service

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=soil)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	SUB (DOC (Field Filtered)/ DOC (Field Filtered))	SUB (Total Organic Carbon/ Total Organic Carbon)	Total Number of Containers	Special Instructions/Note:
CH-CCR-W305-1023 (550-210901-2)	11/21/23	11:20 Arizona	G	Water	X	X	X	X	1	-01
CH-CCR-TWX6-1023 (550-210901-3)	11/21/23	13:23 Arizona	G	Water	X	X	X	X	1	-02
CH-CCR-TWX6-1023 (550-210901-4)	11/21/23	13:23 Arizona	G	Water	X	X	X	X	1	-03

Grab per project - TN 12/18/23

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: _____ Date/Time: 12/17/23 14:00 Company: Fedex
 Relinquished by: _____ Date/Time: 12/18/23 9:16 Company: Legend
 Relinquished by: _____ Date/Time: _____ Company: _____
 Custody Seals Intact: Yes No
 Cooler Temperature(s) °C and other remarks: O.I.C. 6.588 7413 891

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

210901

TestAmerica Laboratories, Inc.

Client Contact

Arizona Public Service
4801 Cholla Lake Rd
Joseph City, AZ 86032
(928) 587-0319 Phone
FAX
Project Name: CCR Groundwater Monitoring
Site: APS Cholla Power Plant (BAP)
PO #: 300592358

Natalie Chrisman
(602) 250-3608

Pam Norris (505) 598-8781

Date:

Carrier:

COC No: 2 of 2 COCs

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS
TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Lab Contact: Danielle Roberts

Sampler:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

Sample Identification

Sample Date	Sample Time	Sample Type (G-Comp, G-grad)	Matrix	# of Cont.
CH-CCR-TWX6-1023	11/21/23	G	W	14

Filtered Sample (Y / N)	Perform MS / MSD (Y / N)
	EPA 300.0 (Cl, F, SO4)
	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)
	EPA 200.7 - Total Lithium
	EPA 200.7 - Dissolved (Fe, Mn)
	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Ti)
	EPA 200.8 - Dissolved (As, Co)
	SM 4500-HB (pH)
	SM 2540C (TDS)
	SM 5410B (TOC)
	SM 5310B (DOC)
	SM 4500-NH3 D (NH3 as N)
	353.2 (NO3+NO2 as N)
	SM 2320B (CO3 Alk. as CaCO3)
	SM 2320B (HCO3 Alk. as CaCO3)

Sample Specific Notes:
Seepage Pump Port Sample

Sample Date	Sample Time	Sample Type (G-Comp, G-grad)	Matrix	# of Cont.	1	4	4	4	4	4	4	1	1	2	2	2	3	3	3	1	1
11/21/23	1323	G	W	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

1

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

1

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell; * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____

Relinquished by: _____ Company: _____ Date/Time: _____

Relinquished by: _____ Company: _____ Date/Time: _____

Relinquished by: *HNTB* Company: *WSP* Date/Time: *11/22/23* Received in Laboratory by: *Marc SX* Company: **BETA PHX** Date/Time: *11/22/23 9:05*

2.8°C-CD-ice

TestAmerica

THE LEADER IN ENVIR **fins** | Environment Testi **ING**
TestAmerica

2264122

ORIGIN ID: INWA (602) 437-3340
TESTAMERICA-PHOENIX
TESTAMERICA
4625 E COTTON CENTER BLVD
SUITE 189
PHOENIX, AZ 85040
UNITED STATES US

SHIP DATE: 27NOV23
ACTWGT: 55.75 LB
CAD: 0875926/CAFE3755
DIMS: 25x13x14 IN
BILL RECIPIENT

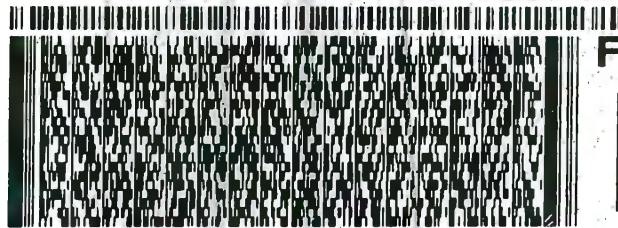
TO **SHIPPING/RECEIVING**
EUROFINS ENVIRONMENT TESTING SOUTHW
2841 DOW AVENUE, SUITE 100

TUSTIN CA 92780

(714) 896-6484
PO: YES

REF: 6560-87122

DEPT: SAMPLE RECEIVING



FedEx
Express



110112015920202227

TRK# **6388 9413 6775**
0201

TUE - 28 NOV 12:00P
PRIORITY OVERNIGHT

QZ DTHA

92780
CA-US SNA



550-210901 Waybill

Part # 139489-434 NTW EXP 08/24 ***

585C17012/REB7

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Client Information (Sub Contract Lab)		Sampler:	Lab PM:	Carrier Tracking No(s):	COC No:
Client Contact:		Eshelman, Linda	Eshelman, Linda	550-38294.1	550-38294.1
Shipping/Receiving		Phone:	E-Mail:	State of Origin:	Page:
Company:		TestAmerica Laboratories, Inc.	linda.eshelman@et.eurofins.com	Arizona	Page 1 of 1
Address		Due Date Requested:	Accreditations Required (See note):	Job #:	550-210901-1
4955 Yarrow Street,		12/7/2023	State - Arizona; State Program - Arizona	550-210901-1	Preservation Codes:
City:		TAT Requested (days):	Analysis Requested	M - Hexane N - None O - AsNaO2 P - Na2O4S Q - NaZSO3 R - NaZSO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
State, Zip:		PO #:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
CO, 80002		WO #:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
Phone:		Project #:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
303-736-0100(Tel) 303-431-7171(Fax)		55009651	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
Email:		SSOW#:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
Project Name:		Site:	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
CCR Groundwater Monitoring		Arizona Public Service	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2 Pres
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)
CH-CCR-W305-1023 (550-210901-1)	11/21/23	11:20 Arizona	Water	Water	Water
CH-CCR-TWX6-1023 (550-210901-3)	11/21/23	13:23 Arizona	Water	Water	Water
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/test/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southwest, LLC.					
Possible Hazard Identification					
<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Special Instructions/QC Requirements:					
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Deliverable Requested: I, II, III, IV, Other (specify) _____ Primary Deliverable Rank: 2					
Empty Kit Relinquished by _____ Date: _____					
Relinquished by: _____ Date/Time: _____ Company: _____					
Relinquished by: _____ Date/Time: _____ Company: _____					
Relinquished by: _____ Date/Time: _____ Company: _____					
Custody Seals Intact: _____ Custody Seal No.: _____					
Cooler Temperature(s) °C and Other Remarks: 2.3°C Appa-CFO-2					



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210901-1

Login Number: 210901

List Number: 1

Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210901-1

Login Number: 210901

List Number: 3

Creator: Kasianchuk, Ivanna

List Source: Eurofins Calscience

List Creation: 11/28/23 01:59 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	2264122
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210901-1

Login Number: 210901

List Number: 2

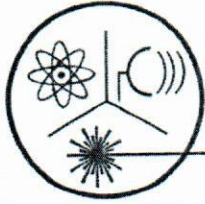
Creator: Held, Wesley

List Source: Eurofins Denver

List Creation: 11/28/23 11:49 AM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

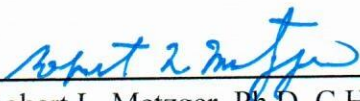
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 19, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M53A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 19, 2023 11:48 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72979

Lab ID Number: AZ0462

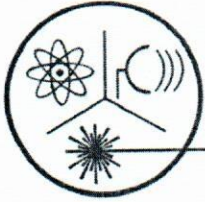
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M53A-1023

Authorized Signature: 

Date Public Water System Notified: _____



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Website: www.radsafe.com

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FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 19, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW69A-1023	< 0.4	1.2 ± 0.3	1.2 ± 0.3

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 19, 2023 9:11 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	1.2 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	1.2 ± 0.3	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72980 _____

Lab ID Number: AZ0462 _____

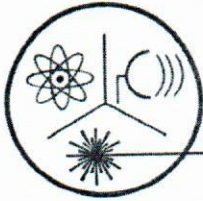
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-MW69A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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FAX (480) 892-5446

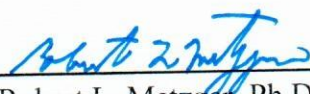
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW70M-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 18, 2023 15:43 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72981 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-MW70M-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW71A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D., C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 18, 2023 13:12 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72982 _____

Lab ID Number: AZ0462 _____

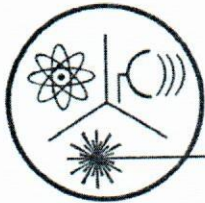
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-MW71A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW72M-1023	6.0 ± 0.3	10.6 ± 0.7	16.6 ± 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 18, 2023 14:02 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	16.6 ± 0.8	X
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	6.0 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	10.6 ± 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE72983

Lab ID Number: AZ0462

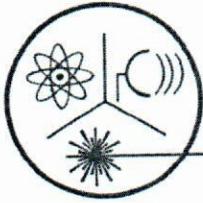
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW72M-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW73A-1023	< 0.4	< 0.8	< 0.8
Date of Analysis	10/27/2023	10/27/2023	10/27/2023


Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 18, 2023 11:00 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72984

Lab ID Number: AZ0462

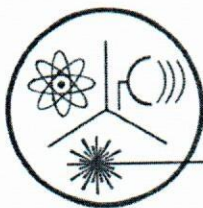
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW73A-1023

Authorized Signature: 

Date Public Water System Notified: _____



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Website: www.radsafe.com

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FAX (480) 892-5446

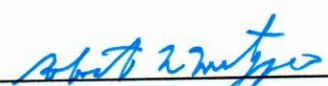
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW74M-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 18, 2023 10:00 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

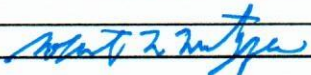
- | | |
|--|--------------------------|
| <input type="checkbox"/> Reduced Monitoring | Date Q1 collected: _____ |
| <input type="checkbox"/> Quarterly | Date Q2 collected: _____ |
| <input type="checkbox"/> Composite of four quarterly samples | Date Q3 collected: _____ |
| | Date Q4 collected: _____ |

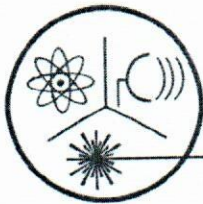
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____	µg/L
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72985
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-MW74M-1023
 Authorized Signature: 
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW77A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 17, 2023 14:54 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

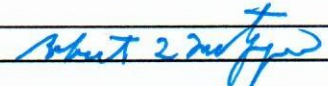
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

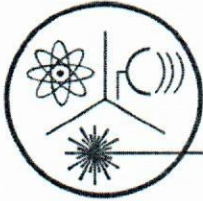
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72986 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-MW77A-1023 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

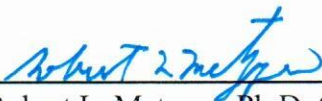
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 19, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W301-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/9/2023
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 19, 2023 15:52 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72987 _____

Lab ID Number: AZ0462 _____

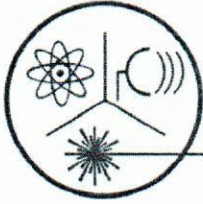
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W301-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 19, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W303-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/9/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 19, 2023 13:35 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72988 _____

Lab ID Number: AZ0462 _____

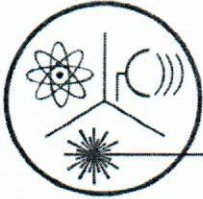
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W303-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446


Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 19, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W306-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 19, 2023 10:30 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72989 _____

Lab ID Number: AZ0462 _____

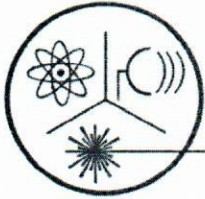
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W306-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121

Website: www.radsafe.com

(480) 897-9459

FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 18, 2023

Sample Received: October 20, 2023

Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W314-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 18, 2023 8:45 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72990

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W314-1023

Authorized Signature: _____ 

Date Public Water System Notified: _____

Client Information

Name: Natalie Chrisman/602-250-3608
 Company: Arizona Public Service
 Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032
 Phone: 928-587-0319
 Site: APS Cholla Power Plant (BAP)

Radiation Safety Engineering, Inc.
 3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

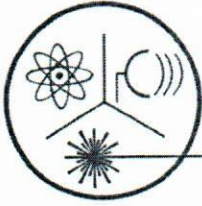
Sample ID & Location (DWR#)	Collection		Media (DW, WW, Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	Date	Time														
CH-CCR-M53A-1023	10/19/23	1148	GW						X	X	X					72979
CH-CCR-MW69A-1023	10/19/23	911	GW						X	X	X					72980
CH-CCR-MW70M-1023	10/18/23	1543	GW						X	X	X					72981
CH-CCR-MW71A-1023	10/18/23	1312	GW						X	X	X					72982
CH-CCR-MW72M-1023	10/18/23	1402	GW						X	X	X					72983
CH-CCR-MW73A-1023	10/18/23	1100	GW						X	X	X					72984
CH-CCR-MW74M-1023	10/18/23	1000	GW						X	X	X					72985
CH-CCR-MW77A-1023	10/17/23	1454	GW						X	X	X					72986
CH-CCR-W301-1023	10/19/23	1552	GW						X	X	X					72987
CH-CCR-W303-1023	10/19/23	1335	GW						X	X	X					72988

Instructions/Comments
 Method HPGe
 Invoice to: PO #: 300592346

Relinquished By: *[Signature]* Company: WSP
 Relinquished By: Company:
 Relinquished By: Company:

Received By: *[Signature]* Date/time: 10/27/23
 Received By: Company: RSE Date/time: 10/28/23 3:21
 Received By: Company: Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.
 w/client/forms/cofc/fm



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M52A-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 11, 2023 16:22 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72889 _____

Lab ID Number: AZ0462 _____

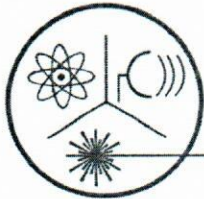
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M52A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

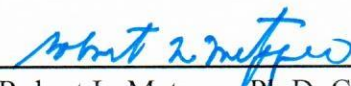
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M55A-1023	1.2 ± 0.2	1.1 ± 0.3	2.3 ± 0.4

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 10:28 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	2.3 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	1.2 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	1.1 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<<

Specimen Number: RSE72890

Lab ID Number: AZ0462

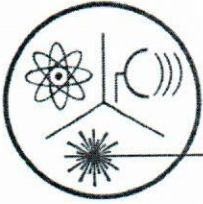
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M55A-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 13, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW79A-1023	< 0.4	0.7 ± 0.3	0.7 ± 0.3

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 13, 2023 11:03 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	0.7 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	0.7 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72891 _____

Lab ID Number: AZ0462 _____

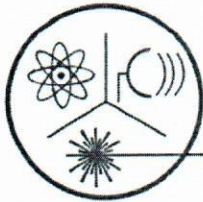
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-MW79A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

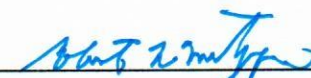
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 13, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD02-1023	< 0.4	1.5 ± 0.4	1.5 ± 0.4

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 13, 2023 15:37 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

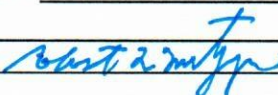
>>>To be filled out by laboratory personnel<<<

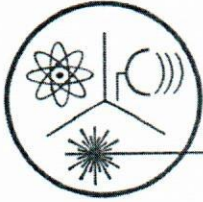
*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.5 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	1.5 ± 0.4	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72892 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-FD02-1023 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



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(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W302-1023	0.6 ± 0.2	< 0.7	0.6 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 16:07 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	0.6 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	0.6 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72893

Lab ID Number: AZ0462

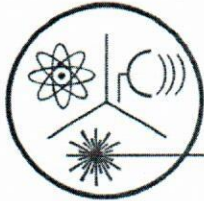
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W302-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459

FAX (480) 892-5446

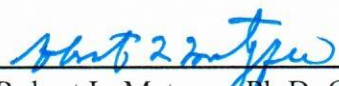
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W304-1023	< 0.4	1.3 ± 0.3	1.3 ± 0.3

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 14:27 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.3 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	1.3 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72894

Lab ID Number: AZ0462

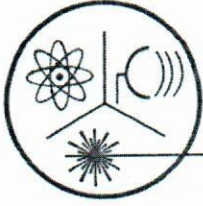
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W304-1023

Authorized Signature: _____ 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W307R-1023	< 0.4	1.0 ± 0.3	1.0 ± 0.3

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 13:09 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.0 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	1.0 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72895

Lab ID Number: AZ0462

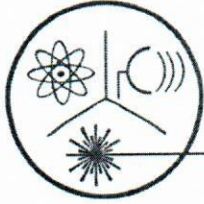
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W307R-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD03-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 16:20 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72896

Lab ID Number: AZ0462

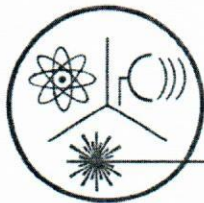
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD03-1023

Authorized Signature: 

Date Public Water System Notified: _____



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Website: www.radsafe.com

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FAX (480) 892-5446

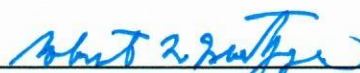
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W308-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 12, 2023 11:32 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

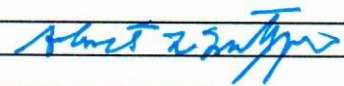
- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

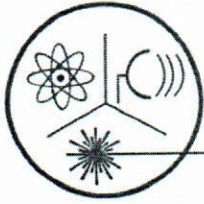
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72897
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
 Comments: CH-CCR-W308-1023
 Authorized Signature: 
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 12, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W309-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 12, 2023 9:23 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72898

Lab ID Number: AZ0462

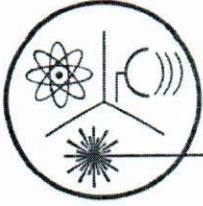
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W309-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446


Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W317-1023	1.1 ± 0.2	< 0.7	1.1 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/1/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 11, 2023 10:16 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	1.1 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	1.1 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72899

Lab ID Number: AZ0462

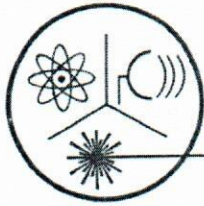
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W317-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

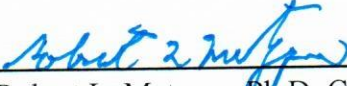
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 11, 2023
Sample Received: October 13, 2023
Analysis Completed: November 01, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD04-1023	0.5 ± 0.2	< 0.7	0.5 ± 0.2

Date of Analysis	10/20/2023	10/20/2023	10/20/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/1/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 11, 2023 16:10 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/20/2023	0.5 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/20/2023	0.5 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/20/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72900 _____

Lab ID Number: AZ0462 _____

Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-FD04-1023 _____

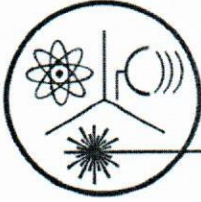
Authorized Signature:  _____

Date Public Water System Notified: _____

Client Information			Radiation Safety Engineering, Inc. 3245 North Washington Street, Chandler, Arizona 85225												
Name: Natalie Chrisman/602-250-3608			Analysis Request												
Company: Arizona Public Service			H-3												
Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032			Ra-226 + Ra-228, Combined												
Phone: 928-587-0319			Ra-228												
Site: APS Cholla Power Plant (BAP)			Ra-226												
Sample ID & Location (DWR#)	Collection		Media (DW*, WW*, Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	Date	Time													
CH-CCR-M52A-1023	10/11/2023	1622	GW						X	X	X				72 889
CH-CCR-M55A-1023	10/12/2023	1028	GW						X	X	X				72 890
CH-CCR-MW79A-1023	10/13/2023	1103	GW						X	X	X				72 891
CH-CCR-FD02-1023	10/13/2023	1537	GW						X	X	X				72 892
CH-CCR-W302-1023	10/12/2023	1607	GW						X	X	X				72 893
CH-CCR-W304-1023	10/12/2023	1427	GW						X	X	X				72 894
CH-CCR-W307R-1023	10/12/2013	1309	GW						X	X	X				72 895
CH-CCR-FD03-1023	10/12/2023	1620	GW						X	X	X				72 896
CH-CCR-W308-1023	10/12/2023	1132	GW						X	X	X				72 897
CH-CCR-W309-1023	10/12/2023	923	GW						X	X	X				72 898
Sample Receipt			Instructions/Comments												
Total No. of Containers			Method HPGe												
Chain of Custody Seals															
Container Condition															
Lab No.															
Relinguished By: Hank Jensen			Received By: Jacob N Crank												
Relinguished By:			Date/time: 10/13/23												
Relinguished By:			Date/time: 10/13/23												
Relinguished By:			Date/time: 10/13/23												
Company: WSP			Company: RSE												
Company:			Company:												
Company:			Company:												

4:50 PM

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.
info@forms.co/cr



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
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FAX (480) 892-5446

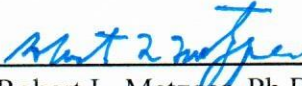
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M43A-1023	< 0.4	1.3 ± 0.4	1.3 ± 0.4

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 16, 2023 16:23 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- | | |
|--|--------------------------|
| <input type="checkbox"/> Reduced Monitoring | Date Q1 collected: _____ |
| <input type="checkbox"/> Quarterly | Date Q2 collected: _____ |
| <input type="checkbox"/> Composite of four quarterly samples | Date Q3 collected: _____ |
| | Date Q4 collected: _____ |

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	1.3 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	1.3 ± 0.4	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72991 _____

Lab ID Number: AZ0462 _____

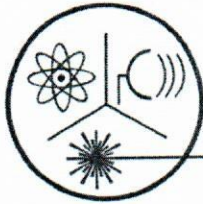
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M43A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M45A-1023	0.6 ± 0.2	< 0.8	0.6 ± 0.2

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 17, 2023 13:38 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	0.6 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	0.6 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72992 _____

Lab ID Number: AZ0462 _____

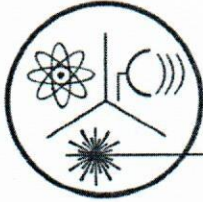
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M45A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

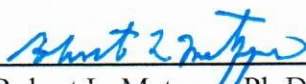
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M46A-1023	0.5 ± 0.2	1.6 ± 0.4	2.1 ± 0.4

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/9/2023
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 16, 2023 13:22 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	2.1 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	0.5 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	1.6 ± 0.4	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72993

Lab ID Number: AZ0462

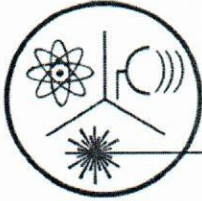
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M46A-1023

Authorized Signature: _____ *Robert L. Metzger*

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M50A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 17, 2023 10:21 (24 hour clock) _____

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

- Reduced Monitoring Date Q1 collected: _____
- Quarterly Date Q2 collected: _____
- Composite of four quarterly samples Date Q3 collected: _____
- Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72994 _____

Lab ID Number: AZ0462 _____

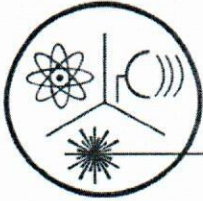
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M50A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446


Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M51A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P. 11/9/2023 Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____ PWS Name: _____

October 17, 2023 9:37 (24 hour clock) _____
 Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number _____ Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

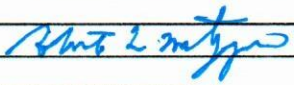
- | | |
|--|--------------------------|
| <input type="checkbox"/> Reduced Monitoring | Date Q1 collected: _____ |
| <input type="checkbox"/> Quarterly | Date Q2 collected: _____ |
| <input type="checkbox"/> Composite of four quarterly samples | Date Q3 collected: _____ |
| | Date Q4 collected: _____ |

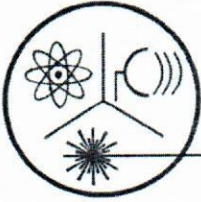
*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72995 _____
 Lab ID Number: AZ0462 _____
 Lab Name: Radiation Safety Engineering, Inc. _____
 Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____
 Comments: CH-CCR-M51A-1023 _____
 Authorized Signature:  _____
 Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M65A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 16, 2023 11:19 (24 hour clock)
 Sample Date Sample Time

 Owner/Contact Person

 Owner/Contact Fax Number

 Owner/Contact Phone Number

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****
 >>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

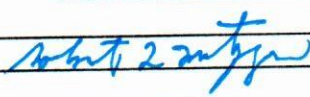
Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****
 >>>To be filled out by laboratory personnel<<<

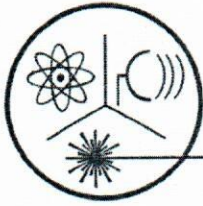
Specimen Number: RSE72996
 Lab ID Number: AZ0462
 Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M65A-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

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Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

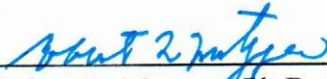
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M66A-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P. 11/9/2023
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 16, 2023 10:15 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72997 _____

Lab ID Number: AZ0462 _____

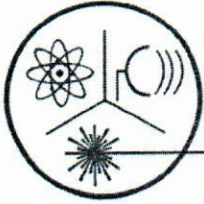
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M66A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

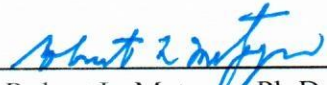
Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M67A-1023	< 0.4	0.8 ± 0.3	0.8 ± 0.3

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 16, 2023 15:15 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	0.8 ± 0.3	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	0.8 ± 0.3	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

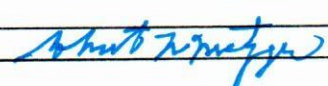
Specimen Number: RSE72998 _____

Lab ID Number: AZ0462 _____

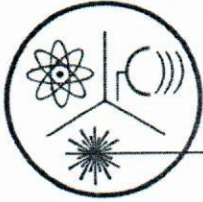
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-M67A-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446


Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W125-1023	2.2 ± 0.2	1.4 ± 0.4	3.6 ± 0.4

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 17, 2023 11:16 (24 hour clock)
 Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point
 EPDS # _____

Compliance Sample Type:

- Reduced Monitoring
- Quarterly
- Composite of four quarterly samples

Date Q1 collected: _____
 Date Q2 collected: _____
 Date Q3 collected: _____
 Date Q4 collected: _____

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

Combined Uranium must be reported in micrograms per liter

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	3.6 ± 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	2.2 ± 0.2	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	1.4 ± 0.4	_____

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE72999 _____

Lab ID Number: AZ0462 _____

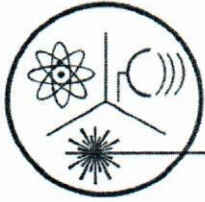
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W125-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 16, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126R-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
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Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 16, 2023 9:29 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73000 _____

Lab ID Number: AZ0462 _____

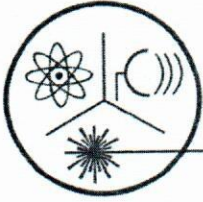
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-W126R-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 17, 2023
Sample Received: October 20, 2023
Analysis Completed: November 09, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-BudHunt-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D, C.H.P.

11/9/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 17, 2023 8:40 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73001

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-BudHunt-1023

Authorized Signature: 

Date Public Water System Notified: _____

Client Information

Name: Natalie Chrisman/602-250-3608
 Company: Arizona Public Service
 Address: 4801 Cholla Lake Rd, Joseph City, AZ 86032
 Phone: 928-587-0319
 Site: APS Cholla Power Plant (FAP)

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection		Media (DW*, WW*, Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	Date	Time														
CH-CCR-M43A-1023	10/16/23	1623	GW						X	X	X					72991
CH-CCR-M45A-1023	10/17/23	1338	GW						X	X	X					72992
CH-CCR-M46A-1023	10/16/23	1322	GW						X	X	X					72993
CH-CCR-M50A-1023	10/17/23	1021	GW						X	X	X					72994
CH-CCR-M51A-1023	10/17/23	937	GW						X	X	X					72995
CH-CCR-M65A-1023	10/16/23	1119	GW						X	X	X					72996
CH-CCR-M66A-1023	10/16/23	1015	GW						X	X	X					72997
CH-CCR-M67A-1023	10/16/23	1515	GW						X	X	X					72998
CH-CCR-W125-1023	10/17/23	1116	GW						X	X	X					72999
CH-CCR-W126R-1023	10/16/23	929	GW						X	X	X					73000

Invoice to:

PO #: 300592346

Instructions/Comments

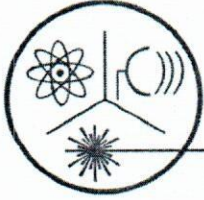
Method HPGe

Received By: <i>Hank Dren</i>	Date/time: 10/16/23	Company: WSP
Received By:	Date/time: 10/16/23	Company:
Received By:	Date/time:	Company:

Received By: <i>Gate Blanning</i>	Date/time: 10/16/23	Company: RSE
Received By:	Date/time:	Company:
Received By:	Date/time:	Company:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

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Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 25, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-EB01-1023	< 0.5	< 0.8	< 0.8

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D, C.H.P.

11/10/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 25, 2023 8:15 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73045 _____

Lab ID Number: AZ0462 _____

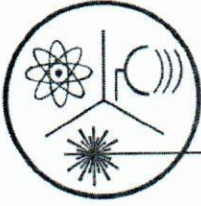
Lab Name: Radiation Safety Engineering, Inc. _____

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459 _____

Comments: CH-CCR-EB01-1023 _____

Authorized Signature:  _____

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2023
Sample Received: October 25, 2023
Analysis Completed: November 10, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-MW78A-1023	< 0.4	< 0.7	< 0.7

Date of Analysis	10/27/2023	10/27/2023	10/27/2023
------------------	------------	------------	------------

Robert L. Metzger, Ph.D., C.H.P.

11/10/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

October 23, 2023 13:00 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000	_____	_____	_____
EPA 00-02		3 pCi/L	Gross Alpha	4002	_____	_____	_____
7500 - Rn			Radon	4004	_____	_____	_____
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006	_____	_____ µg/L	_____
			Uranium 234	4007	_____	_____	_____
			Uranium 235	4008	_____	_____	_____
			Uranium 238	4009	_____	_____	_____
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	10/27/2023	< 0.7	_____
GammaRay HPGE		1 pCi/L	Radium 226	4020	10/27/2023	< 0.4	_____
GammaRay HPGE		1 pCi/L	Radium 228	4030	10/27/2023	< 0.7	_____

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73044

Lab ID Number: AZ0462

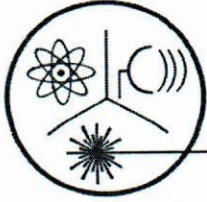
Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-MW78A-1023

Authorized Signature: 

Date Public Water System Notified: _____



Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: November 21, 2023
Sample Received: November 22, 2023
Analysis Completed: December 04, 2023

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W305-1023	< 0.4	< 0.8	< 0.8

Date of Analysis	11/24/2023	11/24/2023	11/24/2023
------------------	------------	------------	------------


Robert L. Metzger, Ph.D, C.H.P.

12/4/2023

Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality
Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report
 Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 _____

PWS Name: _____

November 21, 2023 11:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person _____

Owner/Contact Fax Number _____

Owner/Contact Phone Number _____

Sample Collection Point

EPDS # _____

Compliance Sample Type:

Reduced Monitoring

Date Q1 collected: _____

Quarterly

Date Q2 collected: _____

Composite of four quarterly samples

Date Q3 collected: _____

Date Q4 collected: _____

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
Calculated	15 pCi/L		Adjusted Gross Alpha	4000			
EPA 00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/24/2023	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/24/2023	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/24/2023	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE73312

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W305-1023

Authorized Signature: 

Date Public Water System Notified: _____



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Generated 12/14/2023 9:25:39 AM

JOB DESCRIPTION

CCR Groundwater Monitoring
APS Cholla Power Plant (BAM)

JOB NUMBER

550-210926-1

Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
12/14/2023 9:25:39 AM

Authorized for release by
Linda Eshelman, Project Manager II
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(602)659-7681



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
H1	Sample analysis performed past holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Job ID: 550-210926-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative 550-210926-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method. Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 11/22/2023 9:11 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

HPLC/IC

Method 300_ORGFMS: Due to the high concentration of sulfate and chloride the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 550-312596 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-210926-1	CH-CCR-M54-1023	Water	11/21/23 10:29	11/22/23 09:11
550-210926-2	CH-CCR-M59-1023	Water	11/21/23 12:29	11/22/23 09:11
550-210926-3	CH-CCR-M60-1023	Water	11/20/23 17:48	11/22/23 09:11
550-210926-4	CH-CCR-M61-1023	Water	11/20/23 16:51	11/22/23 09:11
550-210926-5	CH-CCR-FD01-1023	Water	11/21/23 13:31	11/22/23 09:11

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1023

Lab Sample ID: 550-210926-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.3	D2	0.80	mg/L	2		300.0	Total/NA
Boron	0.55		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3100		100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.2	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M59-1023

Lab Sample ID: 550-210926-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	740	E2 H1 M3	4.0	mg/L	2		300.0	Total/NA
Fluoride	1.3	H1 M2	0.80	mg/L	2		300.0	Total/NA
Sulfate	320	E2 H1 M3	4.0	mg/L	2		300.0	Total/NA
Boron	0.53		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	90		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2800		40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.5	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M60-1023

Lab Sample ID: 550-210926-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.4	D2	0.80	mg/L	2		300.0	Total/NA
Boron	0.53		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	88		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900		40	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M61-1023

Lab Sample ID: 550-210926-4

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.3	D2	0.80	mg/L	2		300.0	Total/NA
Boron	0.53		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	93		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900		40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.4	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD01-1023

Lab Sample ID: 550-210926-5

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	400	mg/L	200		300.0	Total/NA
Fluoride	1.3	D2	0.80	mg/L	2		300.0	Total/NA
Boron	0.52		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2800		40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.3	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1023

Lab Sample ID: 550-210926-1

Date Collected: 11/21/23 10:29

Matrix: Water

Date Received: 11/22/23 09:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	mg/L			12/11/23 22:23	200
Fluoride	1.3	D2	0.80	mg/L			12/11/23 22:04	2
Sulfate	ND	D2	400	mg/L			12/11/23 22:23	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.55		0.050	mg/L		11/27/23 09:06	12/04/23 20:15	1
Calcium	100		2.0	mg/L		11/27/23 09:06	12/04/23 20:15	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	3100		100	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			11/30/23 14:32	1
Temperature (SM 4500 H+ B)	6.2	H5 T5	0.1	Degrees C			11/30/23 14:32	1

Client Sample ID: CH-CCR-M59-1023

Lab Sample ID: 550-210926-2

Date Collected: 11/21/23 12:29

Matrix: Water

Date Received: 11/22/23 09:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	740	E2 H1 M3	4.0	mg/L			12/12/23 03:17	2
Fluoride	1.3	H1 M2	0.80	mg/L			12/12/23 03:17	2
Sulfate	320	E2 H1 M3	4.0	mg/L			12/12/23 03:17	2

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.53		0.050	mg/L		11/27/23 09:06	12/04/23 20:13	1
Calcium	90		2.0	mg/L		11/27/23 09:06	12/04/23 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2800		40	mg/L			11/28/23 10:33	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			11/30/23 14:33	1
Temperature (SM 4500 H+ B)	5.5	H5 T5	0.1	Degrees C			11/30/23 14:33	1

Client Sample ID: CH-CCR-M60-1023

Lab Sample ID: 550-210926-3

Date Collected: 11/20/23 17:48

Matrix: Water

Date Received: 11/22/23 09:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			12/11/23 22:59	200
Fluoride	1.4	D2	0.80	mg/L			12/11/23 22:41	2
Sulfate	ND	D2	400	mg/L			12/11/23 22:59	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.53		0.050	mg/L		11/27/23 09:06	12/04/23 20:18	1
Calcium	88		2.0	mg/L		11/27/23 09:06	12/04/23 20:18	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-1023

Lab Sample ID: 550-210926-3

Date Collected: 11/20/23 17:48

Matrix: Water

Date Received: 11/22/23 09:11

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2900		40	mg/L			11/27/23 17:23	1
pH (SM 4500 H+ B)	7.6	H5	1.7	SU			11/30/23 14:34	1
Temperature (SM 4500 H+ B)	7.4	H5 T5	0.1	Degrees C			11/30/23 14:34	1

Client Sample ID: CH-CCR-M61-1023

Lab Sample ID: 550-210926-4

Date Collected: 11/20/23 16:51

Matrix: Water

Date Received: 11/22/23 09:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	mg/L			12/11/23 23:36	200
Fluoride	1.3	D2	0.80	mg/L			12/11/23 23:18	2
Sulfate	ND	D2	400	mg/L			12/11/23 23:36	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.53		0.050	mg/L		11/27/23 09:06	12/04/23 20:21	1
Calcium	93		2.0	mg/L		11/27/23 09:06	12/04/23 20:21	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2900		40	mg/L			11/27/23 17:23	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			11/30/23 14:35	1
Temperature (SM 4500 H+ B)	6.4	H5 T5	0.1	Degrees C			11/30/23 14:35	1

Client Sample ID: CH-CCR-FD01-1023

Lab Sample ID: 550-210926-5

Date Collected: 11/21/23 13:31

Matrix: Water

Date Received: 11/22/23 09:11

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	400	mg/L			12/12/23 00:13	200
Fluoride	1.3	D2	0.80	mg/L			12/11/23 23:55	2
Sulfate	ND	D2	400	mg/L			12/12/23 00:13	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050	mg/L		11/27/23 09:06	12/04/23 20:24	1
Calcium	89		2.0	mg/L		11/27/23 09:06	12/04/23 20:24	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540C)	2800		40	mg/L			11/27/23 17:23	1
pH (SM 4500 H+ B)	7.7	H5	1.7	SU			11/30/23 14:36	1
Temperature (SM 4500 H+ B)	7.3	H5 T5	0.1	Degrees C			11/30/23 14:36	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-312541/2
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			12/11/23 13:29	1
Fluoride	ND		0.40	mg/L			12/11/23 13:29	1
Sulfate	ND		2.0	mg/L			12/11/23 13:29	1

Lab Sample ID: LCS 550-312541/5
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		100	90 - 110
Fluoride	4.00	3.85		mg/L		96	90 - 110
Sulfate	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-312541/6
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.85		mg/L		96	90 - 110	0	20
Sulfate	20.0	19.9		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-210912-D-1 MS
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		290	80 - 120
Fluoride	ND		4.00	3.93		mg/L		95	80 - 120
Sulfate	320	E2 M3	20.0	318	E2 M3	mg/L		10	80 - 120

Lab Sample ID: 550-210912-D-1 MSD
Matrix: Water
Analysis Batch: 312541

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	362	E2 M3	mg/L		291	80 - 120	0	20
Fluoride	ND		4.00	4.10		mg/L		100	80 - 120	4	20
Sulfate	320	E2 M3	20.0	319	E2 M3	mg/L		12	80 - 120	0	20

Lab Sample ID: MB 550-312596/2
Matrix: Water
Analysis Batch: 312596

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			12/11/23 13:29	1
Fluoride	ND		0.40	mg/L			12/11/23 13:29	1
Sulfate	ND		2.0	mg/L			12/11/23 13:29	1

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-312596/43
Matrix: Water
Analysis Batch: 312596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	20.1		mg/L		100	90 - 110
Fluoride	4.00	3.95		mg/L		99	90 - 110
Sulfate	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-312596/44
Matrix: Water
Analysis Batch: 312596

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	20.1		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.97		mg/L		99	90 - 110	0	20
Sulfate	20.0	19.8		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-210926-2 MS
Matrix: Water
Analysis Batch: 312596

Client Sample ID: CH-CCR-M59-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	740	E2 H1 M3	40.0	738	E2 H1 M3	mg/L		-6	80 - 120
Fluoride	1.3	H1 M2	8.00	1.29	H1 M2	mg/L		-0.4	80 - 120
Sulfate	320	E2 H1 M3	40.0	322	E2 H1 M3	mg/L		-4	80 - 120

Lab Sample ID: 550-210926-2 MSD
Matrix: Water
Analysis Batch: 312596

Client Sample ID: CH-CCR-M59-1023
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	740	E2 H1 M3	40.0	735	E2 H1 M3	mg/L		-13	80 - 120	0	20
Fluoride	1.3	H1 M2	8.00	1.29	H1 M2	mg/L		-0.4	80 - 120	0	20
Sulfate	320	E2 H1 M3	40.0	320	E2 H1 M3	mg/L		-9	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-311692/1-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311692

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		11/27/23 09:06	12/04/23 19:58	1
Calcium	ND		2.0	mg/L		11/27/23 09:06	12/04/23 19:58	1

Lab Sample ID: LCS 550-311692/2-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.07		mg/L		107	85 - 115
Calcium	21.0	21.7		mg/L		103	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-311692/3-A
Matrix: Water
Analysis Batch: 312190

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.06		mg/L		106	85 - 115	1	20
Calcium	21.0	21.6		mg/L		103	85 - 115	0	20

Lab Sample ID: 550-210926-2 MS
Matrix: Water
Analysis Batch: 312190

Client Sample ID: CH-CCR-M59-1023
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.53		1.00	1.60		mg/L		108	70 - 130
Calcium	90		21.0	107	M3	mg/L		80	70 - 130

Lab Sample ID: 550-210926-2 MSD
Matrix: Water
Analysis Batch: 312190

Client Sample ID: CH-CCR-M59-1023
Prep Type: Total/NA
Prep Batch: 311692

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.53		1.00	1.59		mg/L		107	70 - 130	1	20
Calcium	90		21.0	109	M3	mg/L		88	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-311739/1
Matrix: Water
Analysis Batch: 311739

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			11/27/23 17:23	1

Lab Sample ID: LCS 550-311739/2
Matrix: Water
Analysis Batch: 311739

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	984		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-311739/3
Matrix: Water
Analysis Batch: 311739

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	986		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-210796-H-1 DU
Matrix: Water
Analysis Batch: 311739

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1000		1020		mg/L		2	10

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: MB 550-311774/1
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20	mg/L			11/28/23 10:33	1

Lab Sample ID: LCS 550-311774/2
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	1000	988		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-311774/3
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Total Dissolved Solids	1000	990		mg/L		99	90 - 110	0	10

Lab Sample ID: 550-210915-I-1 DU
Matrix: Water
Analysis Batch: 311774

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	15000		15100		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-312013/1
Matrix: Water
Analysis Batch: 312013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	6.9		SU		99.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-312013/13
Matrix: Water
Analysis Batch: 312013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-210552-P-1 DU
Matrix: Water
Analysis Batch: 312013

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.9	H5	8.9	H5	SU		0.1	5
Temperature	6.7	H5	6.8	H5	Degrees C		1	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

HPLC/IC

Analysis Batch: 312541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	300.0	
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	300.0	
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	300.0	
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	300.0	
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	300.0	
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	300.0	
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	300.0	
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	300.0	
MB 550-312541/2	Method Blank	Total/NA	Water	300.0	
LCS 550-312541/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-312541/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-210912-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-210912-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 312596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-2	CH-CCR-M59-1023	Total/NA	Water	300.0	
MB 550-312596/2	Method Blank	Total/NA	Water	300.0	
LCS 550-312596/43	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-312596/44	Lab Control Sample Dup	Total/NA	Water	300.0	
550-210926-2 MS	CH-CCR-M59-1023	Total/NA	Water	300.0	
550-210926-2 MSD	CH-CCR-M59-1023	Total/NA	Water	300.0	

Metals

Prep Batch: 311692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	200.7	
550-210926-2	CH-CCR-M59-1023	Total/NA	Water	200.7	
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	200.7	
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	200.7	
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	200.7	
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-210926-2 MS	CH-CCR-M59-1023	Total/NA	Water	200.7	
550-210926-2 MSD	CH-CCR-M59-1023	Total/NA	Water	200.7	

Analysis Batch: 312190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-2	CH-CCR-M59-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	200.7 Rev 4.4	311692
MB 550-311692/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	311692
LCS 550-311692/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	311692
LCSD 550-311692/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-2 MS	CH-CCR-M59-1023	Total/NA	Water	200.7 Rev 4.4	311692
550-210926-2 MSD	CH-CCR-M59-1023	Total/NA	Water	200.7 Rev 4.4	311692

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

General Chemistry

Analysis Batch: 311739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	SM 2540C	
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	SM 2540C	
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	SM 2540C	
MB 550-311739/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-311739/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-311739/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-210796-H-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 311774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	SM 2540C	
550-210926-2	CH-CCR-M59-1023	Total/NA	Water	SM 2540C	
MB 550-311774/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-311774/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-311774/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-210915-I-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 312013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-210926-1	CH-CCR-M54-1023	Total/NA	Water	SM 4500 H+ B	
550-210926-2	CH-CCR-M59-1023	Total/NA	Water	SM 4500 H+ B	
550-210926-3	CH-CCR-M60-1023	Total/NA	Water	SM 4500 H+ B	
550-210926-4	CH-CCR-M61-1023	Total/NA	Water	SM 4500 H+ B	
550-210926-5	CH-CCR-FD01-1023	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-312013/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-312013/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-210552-P-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1023
Date Collected: 11/21/23 10:29
Date Received: 11/22/23 09:11

Lab Sample ID: 550-210926-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 22:04
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 22:23
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:15
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	312013	MAN	EET PHX	11/30/23 14:32

Client Sample ID: CH-CCR-M59-1023
Date Collected: 11/21/23 12:29
Date Received: 11/22/23 09:11

Lab Sample ID: 550-210926-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312596	MMH	EET PHX	12/12/23 03:17
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:13
Total/NA	Analysis	SM 2540C		1	311774	KMG	EET PHX	11/28/23 10:33 - 12/05/23 14:53 ¹
Total/NA	Analysis	SM 4500 H+ B		1	312013	MAN	EET PHX	11/30/23 14:33

Client Sample ID: CH-CCR-M60-1023
Date Collected: 11/20/23 17:48
Date Received: 11/22/23 09:11

Lab Sample ID: 550-210926-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 22:41
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 22:59
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:18
Total/NA	Analysis	SM 2540C		1	311739	KMG	EET PHX	11/27/23 17:23 - 12/05/23 11:44 ¹
Total/NA	Analysis	SM 4500 H+ B		1	312013	MAN	EET PHX	11/30/23 14:34

Client Sample ID: CH-CCR-M61-1023
Date Collected: 11/20/23 16:51
Date Received: 11/22/23 09:11

Lab Sample ID: 550-210926-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 23:18
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/11/23 23:36
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:21
Total/NA	Analysis	SM 2540C		1	311739	KMG	EET PHX	11/27/23 17:23 - 12/05/23 11:44 ¹
Total/NA	Analysis	SM 4500 H+ B		1	312013	MAN	EET PHX	11/30/23 14:35

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
 SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-FD01-1023

Lab Sample ID: 550-210926-5

Date Collected: 11/21/23 13:31

Matrix: Water

Date Received: 11/22/23 09:11

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	300.0		2	312541	MMH	EET PHX	12/11/23 23:55
Total/NA	Analysis	300.0		200	312541	MMH	EET PHX	12/12/23 00:13
Total/NA	Prep	200.7			311692	SGO	EET PHX	11/27/23 09:06
Total/NA	Analysis	200.7 Rev 4.4		1	312190	GLW	EET PHX	12/04/23 20:24
Total/NA	Analysis	SM 2540C		1	311739	KMG	EET PHX	11/27/23 17:23 - 12/05/23 11:44 ¹
Total/NA	Analysis	SM 4500 H+ B		1	312013	MAN	EET PHX	11/30/23 14:36

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature



Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-210926-1
SDG: APS Cholla Power Plant (BAM)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

210926

TestAmerica Laboratories, Inc.

Client Contact		Natalie Chrisman (602) 250-3608		Pam Norris (505) 598-8781		Date:		Carrier:		COC No: 1 of 1 COCS	
Arizona Public Service 4801 Cholla Lake Rd Joseph City, AZ 86032 (928) 587-0319		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		Lab Contact: Danielle Roberts		Date:		Carrier:		COC No: 1 of 1 COCS	
Phone FAX Project Name: CCR Groundwater Monitoring Site: APS Cholla Power Plant (BAM) PO #: 300592358		TAT if different from Below <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Perform MS / MSD (Y / N)		Date:		Carrier:		COC No: 1 of 1 COCS	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca)	SM 4500-HB (pH)	SM 2540C (TDS)
CH-CCR-M54-1023	11/21/23	1029	G	W	2	N	X	X	X	X	X
CH-CCR-M59-1023	11/21/23	1229	G	W	2	N	X	X	X	X	X
CH-CCR-M60-1023	11/20/23	1748	G	W	2	N	X	X	X	X	X
CH-CCR-M61-1023	11/20/23	1651	G	W	2	N	X	X	X	X	X
CH-CCR-FD01-1023	11/21/23	1331	G	W	2	N	X	X	X	X	X
<p>Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other</p> <p>Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.</p> <p><input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown</p> <p>Special Instructions/QC Requirements & Comments: <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months</p> <p>Method 200.8 with collision cell</p>											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Therm ID No.:					
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		Date/Time:	



550-210926 Chain of Custody

7.8°C - CO2 - ice

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-210926-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 210926
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



APPENDIX

C

2023 DATA VALIDATION
REPORT

ARIZONA PUBLIC SERVICE COMPANY

2023 DATA VALIDATION REPORT

CCR RULE COMPLIANCE GROUNDWATER MONITORING
DATA - APS CHOLLA POWER PLANT
ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT
NAVAJO COUNTY, ARIZONA





2023 DATA
VALIDATION REPORT
CCR RULE COMPLIANCE
GROUNDWATER
MONITORING DATA – APS
CHOLLA POWER PLANT
ARIZONA PUBLIC SERVICE COMPANY

PROJECT NO.: 14-2023-2012
DATE: JANUARY 31, 2024

WSP USA ENVIRONMENT & INFRASTRUCTURE INC.
4600 E WASHINGTON ST. STE. 600
PHOENIX, AZ 85034

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WSP.COM



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ACRONYMS AND ABBREVIATIONS

%	percent
APS	Arizona Public Service Company
BTVs	background threshold value(s)
CCR	coal combustion residuals
CLP	Contract Laboratory Program
COC	chain of custody
EPA	United States Environmental Protection Agency
GWPS(s)	Groundwater Protection Standard(s)
LCS	laboratory control sample
LCSD	laboratory control sample
MCL	maximum contaminant level
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
QC	quality control
RL	reporting limit
RPD	relative percent difference
SAP	sampling and analysis plan
SDG	sample delivery group
SM	Standard Method
TDS	total dissolved solids
Wood	Wood Environment & Infrastructure Solutions, Inc.
WSP	WSP USA Environment & Infrastructure Inc

1 INTRODUCTION

Arizona Public Service (APS) collected groundwater Detection and Assessment Monitoring samples to support Coal Combustion Residuals (CCR) Rule Compliance during the 2023 calendar year (the reporting period) at the APS Cholla Power Plant, located near Joseph City in Navajo County, Arizona. This report presents the standard methods used to validate reporting period data and documents the results of the data validation process in summary tables and checklists generated as the samples were collected throughout the year.

2 DATA VALIDATION METHODOLOGY

WSP USA Environment & Infrastructure Inc (WSP) (previously Wood Environment & Infrastructure Solutions, Inc. [Wood]) performed a United States Environmental Protection Agency (EPA) Stage 2A validation on samples collected by APS during the 2023 calendar year. This is equivalent to a Level I data evaluation as defined in the project sampling and analysis plan (SAP). The Stage 2A validation includes review of the quality control (QC) results in laboratory analytical reports and does not include review or validation of the raw analytical data. Data validation activities have been performed in general accordance with:

- EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.
- EPA, 2017. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-2017-001.
- Wood Environment & Infrastructure Solutions, Inc, 2022. Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona. April 11, 2022.

The CLP guidelines were written specifically for the CLP and have been modified for the purposes of data reviews conducted during the reporting period where they differ from method-specific QC requirements.

During each groundwater monitoring round conducted during the reporting period, the laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic data deliverable completeness;
- Chain of custody (COC) compliance;
- Holding time compliance;
- Presence or absence of laboratory contamination as demonstrated by laboratory blanks;
- Accuracy and bias as demonstrated by recovery of laboratory control sample (LCS) and matrix spike (MS) samples;
- Analytical precision as relative percent difference (RPD) of analyte concentration between laboratory duplicates, LCS/LCS duplicates (LCSDs), or MSs/MS duplicates (MSDs);
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices.

Appendix A presents data assessment checklists generated for each sample delivery group submitted to the analytical laboratory during the reporting period. The laboratory performing the analyses as well as the methods of analysis are presented in the individual checklists. **Table 1** presents a comprehensive listing of reporting period samples and **Table 2** summarizes field duplicate detections at concentrations greater than analytical reporting limits.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all QC audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3 EXPLANATION OF DATA QUALITY INDICATORS

Summary explanations of the specific data quality indicators reviewed during data validation are presented below.

3.1 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory Control Samples (LCSs) are aliquots of analyte free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples it accompanies. LCS recovery is an indication of a laboratory's ability to successfully perform an analytical method in an interference free matrix.

3.2 MATRIX SPIKE RECOVERIES

Matrix Spikes (MSs) and Matrix Spike Duplicates (MSDs) are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are an indication of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

3.3 BLANK CONCENTRATIONS

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results.

Laboratory blanks are processed by the laboratory using exactly the same procedures as the field samples. Target analytes should not be found in laboratory blanks.

When target analytes are detected in blanks, analyte concentrations in associated samples less than five times the concentration detected in the blank will be U qualified as being not detected.

3.4 LABORATORY DUPLICATES

Laboratory duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

4 DEFINITIONS OF DATA VALIDATION QUALIFIERS

The following qualifiers may be added to the data during data validation:

- J** The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- R** The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.
- UJ** The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

5 CHAIN OF CUSTODY AND SAMPLE RECEIPT CONDITION DOCUMENTATION

Unless otherwise noted in the Data Assessment Checklists included in **Appendix A**, the samples were received at the laboratories under proper COC, intact, properly preserved, and at temperatures less than the SAP-specified maximum of 6 degrees Celsius.

6 SPECIFIC DATA VALIDATION FINDINGS

Results for groundwater monitoring samples collected in 2023 may be considered usable with the limitations and exceptions summarized in **Table 3**. The following sections identify requirements used in data assessment. Laboratory-specified limits are noted on the Data Assessment Checklists included in **Appendix A**.

6.1 METALS BY EPA METHODS 200.7 200.8, AND 245.1

6.1.1 HOLDING TIMES

Samples must be analyzed for metals within the SAP-specified holding time of 28 days for mercury and 180 days for additional metals.

6.1.2 LABORATORY BLANKS

Target analytes must not be detected in the laboratory blanks associated with the analysis of site samples.

6.1.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum.

6.1.4 MATRIX SPIKES/MATRIX SPIKE DUPLICATES

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in **Appendix A**. MS/MSD recoveries must be within laboratory-specified limits and RPDs between MS and MSD results must be less than the laboratory-specified maximum.

6.1.5 ANALYTICAL SENSITIVITY

RLs for antimony, arsenic, barium, beryllium, cadmium, chromium, mercury, selenium, and thallium must be sufficiently low to meet the National Primary Drinking Water Regulation Maximum Contamination Limits (MCLs). RLs for cobalt, lead, lithium, and molybdenum must be sufficiently low to meet alternative Groundwater Protection Standards (GWPSs).

Boron and calcium are not EPA-regulated analytes in groundwater and it is not possible to evaluate the RLs for these analytes against the National Primary Drinking Water Regulation MCLs.

6.2 ANIONS BY EPA METHOD 300.0

6.2.1 HOLDING TIMES

Samples must be analyzed for anions within the SAP-specified holding time of 28 days.

6.2.2 LABORATORY BLANKS

Fluoride, chloride, and sulfate must not be detected in the laboratory blanks associated with the analysis of these samples.

6.2.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum values.

6.2.4 MATRIX SPIKES/MATRIX SPIKE DUPLICATES

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in **Appendix A**. Recoveries must be within the laboratory-specified limits and RPDs between MS and MSD results must be less than the laboratory-specified limit.

6.2.5 LABORATORY DUPLICATES

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in **Appendix A**. The RPDs between duplicate results must be less than the laboratory-specified limit.

6.2.6 ANALYTICAL SENSITIVITY

Fluoride RLs must be sufficiently low to meet the 4 mg/L MCL. Chloride and sulfate are not EPA-regulated analytes in groundwater and it is not possible to evaluate the RLs for these analytes against the Primary Drinking Water Regulation MCLs.

There are applicable CCR Groundwater Monitoring Program Background Threshold Values (BTVs) for fluoride, chloride, and sulfate for the site. Analytical sensitivity must also be evaluated for these site-specific comparison criteria.

6.3 TOTAL DISSOLVED SOLIDS BY SM 2540C

6.3.1 HOLDING TIMES

All samples must be analyzed for TDS within the SAP-specified holding time of 7 days.

6.3.2 LABORATORY BLANKS

TDS must not be detected in the laboratory blanks at concentrations above the reporting limit.

6.3.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum values.

6.3.4 LABORATORY DUPLICATES

Laboratories performed duplicate analysis for TDS on the project samples specified in the Data Assessment Checklists included in **Appendix A**. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.4 PH BY SM 4500B

6.4.1 HOLDING TIMES

All samples must be analyzed for pH within 15 minutes of sample collection.

6.4.2 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS recoveries must be within the laboratory-specified limits.

6.4.3 LABORATORY DUPLICATES

Laboratories performed duplicate analysis for pH on the project samples specified in the Data Assessment Checklists included in **Appendix A**. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.5 GENERAL CHEMISTRY BY EPA METHOD 350.1, SM 2320B, AND S 5310B

6.5.1 HOLDING TIMES

Samples must be analyzed for ammonia, total organic carbon (TOC), and dissolved organic carbon (DOC) within 28 days of sample collection. Samples must be analyzed for alkalinity within 14 days of sample collection.

6.5.2 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

6.5.3 LABORATORY DUPLICATES

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in **Appendix A**. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.6 RADIUM BY EPA METHODS 903.0 AND 904.0

6.6.1 HOLDING TIME

All samples must be analyzed for radium within the EPA-recommended holding time of 6 months.

6.6.2 LABORATORY BLANKS

6.6.3 LABORATORY CONTROL SAMPLE ACCURACY AND PRECISION

LCS and LCSD recoveries must be within laboratory-specified limits.

6.6.4 CARRIER ACCURACY

Carrier recoveries must be within the laboratory-specified limits.

6.6.5 ANALYTICAL SENSITIVITY

Total radium RLs must be sufficiently low to meet the MCL of 5 picocuries per liter. Pending development of applicable CCR Groundwater Monitoring Program BTVs and/or GPSs for the site, analytical sensitivity must also be evaluated for these site-specific comparison criteria.

7 FIELD DUPLICATES

APS collected field duplicate samples of the specified field original samples as specified in **Table 1**. Target analyte detections are summarized in **Table 2**. Precision values must be less than the SAP-specified maximum of 20%, or the differences between the detected concentrations must be less than the RLs.

8 SUMMARY AND CONCLUSIONS

Data are usable with the addition of qualifiers as presented in **Table 3**. Although the overall amount of qualified data decreased by approximately 23% from the 2022 reporting period, a considerable amount of groundwater sampling data assessed during the reporting period still required data qualifiers. The vast majority of these qualifiers were for holding time exceedances for pH, which is monitored in the field during sample collection. However, significantly more data included a J-qualifier for high laboratory control sample recoveries in 2023 when compared to past sampling events. Approximately 39 2023 analytical results included a J-qualifier for high laboratory control sample recoveries in 2023 and no data included a J-qualifier for this same reason in 2022.

BIBLIOGRAPHY

- EPA, 2017. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-2017-001.
- EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.
- Wood Environment & Infrastructure Solutions, Inc, 2022. Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona. April 11, 2022.

TABLES



TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins Environment Testing Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Sub-Contracted Sample Identification	Notes
Assessment	BAM	1/26/2023 15:39	CH-CCR-M54-0123	550-196984-1	--	--	
Assessment	BAM	1/26/2023 14:25	CH-CCR-M60-0123	550-196984-2	--	--	
Assessment	BAM	1/26/2023 13:45	CH-CCR-FD01-0123	550-196984-3	--	--	Field duplicate of CH-CCR-M54-0123
Assessment	BAM	1/27/2023 11:20	CH-CCR-EB01-0123	550-196984-4	--	--	Equipment blank
Assessment	FAP	4/15/2023 10:30	CH-CCR-M43A-0423	550-200849-1/2	71517	--	
Assessment	FAP	4/13/2023 11:17	CH-CCR-M44D-0423	550-200849-3	71518	--	
Assessment	FAP	4/15/2023 11:33	CH-CCR-M45A-0423	550-200849-4	71519	--	
Assessment	FAP	4/15/2023 13:56	CH-CCR-M46A-0423	550-200849-5/6	71520	--	
Assessment	FAP	4/15/2023 8:57	CH-CCR-M63A-0423	550-200849-7	71521	--	
Assessment	FAP	4/15/2023 16:20	CH-CCR-FD05-0423	550-200849-8/9	71522	--	Field duplicate of CH-CCR-M63A-0423
Assessment	FAP	4/15/2023 12:46	CH-CCR-M65A-0423	550-200849-10/11	71523	--	
Assessment	FAP	4/15/2023 16:11	CH-CCR-M66A-0423	550-200849-12/13	71524	--	
Assessment	FAP	4/15/2023 15:06	CH-CCR-M67A-0423	550-200849-14/15	71525	--	
Assessment	FAP	4/15/2023 17:20	CH-CCR-W126R-0423	550-200849-16	71526	--	
Assessment	BAP	4/14/2023 13:20	CH-CCR-FD02-0423	550-200842-1/2	71528	--	Field duplicate of CH-CCR-MW79A-0423
Assessment	BAP	4/14/2023 15:39	CH-CCR-W305-0423	550-200842-3/4	71529	--	
Assessment	BAP	4/14/2023 16:43	CH-CCR-M79A-0423	550-200842-5/6	71527	--	
Assessment	BAP	4/14/2023 18:11	CH-CCR-W317-0423	550-200842-7	71530	--	
Assessment	BAP	4/14/2023 12:34	CH-CCR-FD04-0423	550-200842-8	71531	--	Field duplicate of CH-CCR-W317-0423
Assessment	BAM	4/13/2023 8:56	CH-CCR-M54-0423	550-200839-1	--	--	
Assessment	BAM	4/12/2023 11:08	CH-CCR-M59-0423	550-200839-2	--	--	
Assessment	BAM	4/12/2023 12:48	CH-CCR-M61-0423	550-200839-3	--	--	
Assessment	BAM	4/12/2023 16:20	CH-CCR-FD01-0423	550-200839-4	--	--	Field duplicate of CH-CCR-M59-0423
Assessment	BAP	4/19/2023 13:07	CH-CCR-M52A-0423	550-201150-1/2	71593	--	
Assessment	BAP	4/19/2023 10:38	CH-CCR-M53A-0423	550-201150-3/4	71594	--	
Assessment	BAP	4/20/2023 15:47	CH-CCR-M55A-0423	550-201150-5/6	71595	--	
Assessment	BAP	4/19/2023 14:10	CH-CCR-MW69A-0423	550-201150-7/8	71596	--	
Assessment	BAP	4/19/2023 15:20	CH-CCR-MW70M-0423	550-201150-9/10	71597	--	
Assessment	BAP	4/19/2023 17:34	CH-CCR-MW71A-0423	550-201150-11/12	71598	--	
Assessment	BAP	4/19/2023 16:24	CH-CCR-MW72M-0423	550-201150-13/14	71599	--	
Assessment	BAP	4/20/2023 10:11	CH-CCR-MW73A-0423	550-201150-15/16	71600	--	
Assessment	BAP	4/20/2023 11:08	CH-CCR-MW74M-0423	550-201150-17/18	71601	--	
Assessment	BAP	4/18/2023 17:01	CH-CCR-W301-0423	550-201150-19/20	71602	--	
Assessment	BAP	4/18/2023 18:09	CH-CCR-W303-0423	550-201150-21/22	71603	--	
Assessment	BAP	4/19/2023 11:25	CH-CCR-W306-0423	550-201150-23/24	71604	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins Environment Testing Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Sub-Contracted Sample Identification	Notes
Assessment	BAP	4/20/2023 17:18	CH-CCR-W308-0423	550-201150-25/26	71605	--	
Assessment	BAP	4/20/2023 14:46	CH-CCR-W309-0423	550-201150-27/28	71606	--	
Assessment	BAP	4/20/2023 12:24	CH-CCR-W314-0423	550-201150-29/30	71607	--	
Assessment	FAP	4/17/2023 15:20	CH-CCR-M50A-0423	550-201150-31/32	71608	--	
Assessment	FAP	4/17/2023 14:14	CH-CCR-M51A-0423	550-201150-33/34	71609	--	
Assessment	FAP	4/17/2023 12:15	CH-CCR-M64A-0423	550-201150-35/36	71610	--	
Assessment	FAP	4/17/2023 17:47	CH-CCR-W123R-0423	550-201150-37/38	71611	--	
Assessment	BAP	4/17/2023 16:44	CH-CCR-W125-0423	550-201150-39	--	--	
Assessment	FAP	4/19/2023 9:18	CH-CCR-BudHunt-0423	550-201150-40/41	71612	--	
Assessment	BAP	4/25/2023 12:17	CH-CCR-W125-0423	--	71647	--	
Assessment	BAP	4/24/2023 14:54	CH-CCR-W302-0423	550-201346-1/2	71651	--	
Assessment	BAP	4/24/2023 13:28	CH-CCR-W304-0423	550-201346-3/4	71650	--	
Assessment	BAP	4/24/2023 12:16	CH-CCR-W307R-0423	550-201346-5/6	71648	--	
Assessment	BAP	4/24/2023 16:20	CH-CCR-FD03-0423	550-201346-7/8	71649	--	Field duplicate of CH-CCR-W307R-0423
Assessment	BAP	4/25/2023 9:53	CH-CCR-MW77A-0423	550-201346-9/10	71645	--	
Assessment	BAP	4/24/2023 17:16	CH-CCR-MW78A-0423	550-201346-11/12	71646	--	
Assessment	BAP	4/26/2023 11:38	CH-CCR-BAP-0423	550-201346-13/14	--	--	
Assessment	BAP	4/26/2023 8:27	CH-CCR-BAPTD-0423	550-201346-15/16	--	--	
Assessment	BAP	4/26/2023 9:00	CH-CCR-Petroglyph-0423	550-201346-17/18	--	--	
Assessment	BAP	4/26/2023 9:16	CH-CCR-TannerWash-0423	550-201346-19/20	--	--	
Assessment	BAP	4/26/2023 9:41	CH-CCR-TWX3-0423	550-201346-21/22	--	--	
Assessment	BAP	4/26/2023 10:00	CH-CCR-TWX5-0423	550-201346-23/24	--	--	
Assessment	BAP	4/26/2023 10:11	CH-CCR-TWX6-0423	550-201346-25/26	--	--	
Assessment	BAP	4/26/2023 10:29	CH-CCR-TWX7-0423	550-201346-27/28	--	--	
Assessment	BAP	4/26/2023 10:54	CH-CCR-TWX9-0423	550-201346-29/30	--	--	
Assessment	BAP	4/26/2023 11:05	CH-CCR-TWX10-0423	550-201346-31/32	--	--	
Assessment	BAP	4/26/2023 12:46	CH-CCR-EB01-0423	550-201346-33/34	71654	--	Equipment blank
Assessment	BAP	4/25/2023 13:35	CH-CCR-FAP-0423	550-201346-35/36	71652	--	
Assessment	BAP	4/25/2023 12:43	CH-CCR-GeronimoC-0423	550-201346-37/38	--	--	
Assessment	BAP	4/25/2023 13:04	CH-CCR-GeronimoD-0423	550-201346-39/40	--	--	
Assessment	BAP	4/25/2023 11:13	CH-CCR-HuntB-0423	550-201346-41/42	71653	--	
Assessment	BAM	5/10/2023 10:36	CH-CCR-M60-0523	550-202028-1	--	--	
Aquifer Testing	BAP	6/16/2023 9:34	CRT3-W307R-0623	550-203635-1	--	--	
Aquifer Testing	BAP	6/14/2023 22:36	CRT2-W307R-0623	550-203635-2	--	--	
Aquifer Testing	BAP	6/13/2023 11:38	CRT1-W307R-0623	550-203635-3	--	--	
Assessment	BAP	10/11/2023 16:22	CH-CCR-M52A-1023	550-209146-1/2	72889	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins Environment Testing Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Sub-Contracted Sample Identification	Notes
Assessment	BAP	10/12/2023 10:28	CH-CCR-M55A-1023	550-209146-3/4	72890	--	
Assessment	BAP	10/13/2023 11:03	CH-CCR-MW79A-1023	550-209146-5/6	72891	--	
Assessment	BAP	10/13/2023 15:37	CH-CCR-FD02-1023	550-209146-7/8	72892	--	Field Duplicate of CH-CCR-MW79A-1023
Assessment	BAP	10/12/2023 16:07	CH-CCR-W302-1023	550-209146-9/10	72893	--	
Assessment	BAP	10/12/2023 14:27	CH-CCR-W304-1023	550-209146-11/12	72894	--	
Assessment	BAP	10/12/2023 13:09	CH-CCR-W307R-1023	550-209146-13/14	72895	--	
Assessment	BAP	10/12/2023 16:20	CH-CCR-FD03-1023	550-209146-20/21	72896	--	Field Duplicate of CH-CCR-W307R-1023
Assessment	BAP	10/12/2023 11:32	CH-CCR-W308-1023	550-209146-15/16	72897	--	
Assessment	BAP	10/12/2023 9:23	CH-CCR-W309-1023	550-209146-17/18	72898	--	
Assessment	BAP	10/11/2023 10:16	CH-CCR-W317-1023	550-209146-19	72899	--	
Assessment	BAP	10/11/2023 16:10	CH-CCR-FD04-1023	550-209146-22	72900	--	Field Duplicate of CH-CCR-W317-1023
Assessment	BAP	10/13/2023 9:55	CH-CCR-BAP-1023	550-209146-23/24	--	--	
Assessment	FAP	10/11/2023 12:33	CH-CCR-M63A-1023	550-209145-2	72901	--	
Assessment	FAP	10/11/2023 15:15	CH-CCR-M64A-1023	550-209145-3/4	72902	--	
Assessment	FAP	10/11/2023 13:52	CH-CCR-W123R-1023	550-209145-5/6	72903	--	
Assessment	FAP	10/13/2023 8:55	CH-CCR-FAP-1023	550-209145-7/8	72904	--	
Assessment	FAP	10/11/2023 13:31	CH-CCR-FD06-1023	550-209145-1	72905	--	Field Duplicate of CH-CCR-M63A-1023
Assessment	BAP	10/19/2023 11:48	CH-CCR-M53A-1023	--	72979	--	
Assessment	BAP	10/19/2023 9:11	CH-CCR-MW69A-1023	--	72980	--	
Assessment	BAP	10/18/2023 15:43	CH-CCR-MW70M-1023	--	72981	--	
Assessment	BAP	10/18/2023 13:12	CH-CCR-MW71A-1023	--	72982	--	
Assessment	BAP	10/18/2023 14:02	CH-CCR-MW72M-1023	--	72983	--	
Assessment	BAP	10/18/2023 11:00	CH-CCR-MW73A-1023	--	72984	--	
Assessment	BAP	10/18/2023 10:00	CH-CCR-MW74M-1023	--	72985	--	
Assessment	BAP	10/17/2023 14:54	CH-CCR-MW77A-1023	--	72986	--	
Assessment	BAP	10/19/2023 15:52	CH-CCR-W301-1023	--	72987	--	
Assessment	BAP	10/19/2023 13:35	CH-CCR-W303-1023	--	72988	--	
Assessment	BAP	10/19/2023 10:30	CH-CCR-W306-1023	--	72989	--	
Assessment	BAP	10/18/2023 8:45	CH-CCR-W314-1023	--	72990	--	
Assessment	BAP	10/16/2023 16:23	CH-CCR-M43A-1023	550-209471-1/2	72991	--	
Assessment	BAP	10/17/2023 13:38	CH-CCR-M45A-1023	550-209471-3	72992	--	
Assessment	BAP	10/16/2023 13:22	CH-CCR-M46A-1023	550-209471-4/5	72993	--	
Assessment	BAP	10/17/2023 10:21	CH-CCR-M50A-1023	550-209471-6/7	72994	--	
Assessment	BAP	10/17/2023 9:37	CH-CCR-M51A-1023	550-209471-8/9	72995	--	
Assessment	BAP	10/16/2023 11:19	CH-CCR-M65A-1023	550-209471-10/11	72996	--	
Assessment	BAP	10/16/2023 10:15	CH-CCR-M66A-1023	550-209471-12/13	72997	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins Environment Testing Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Sub-Contracted Sample Identification	Notes
Assessment	BAP	10/16/2023 15:15	CH-CCR-M67A-1023	550-209471-14/15	72998	--	
Assessment	BAP	10/17/2023 11:16	CH-CCR-W125-1023	550-209471-16	72999	--	
Assessment	BAP	10/16/2023 9:29	CH-CCR-W126R-1023	550-209471-17/18	73000	--	
Assessment	BAP	10/17/2023 8:40	CH-CCR-BudHunt-1023	550-209471-19/20	73001	--	
Assessment	FAP	10/23/2023 15:15	CH-CCR-EW01-1023	--	73038	--	
Assessment	FAP	10/23/2023 15:45	CH-CCR-EW02-1023	--	73039	--	
Assessment	FAP	10/23/2023 16:45	CH-CCR-EW03-1023	--	73040	--	
Assessment	FAP	10/23/2023 17:32	CH-CCR-EW04-1023	--	73041	--	
Assessment	FAP	10/23/2023 17:13	CH-CCR-GSX1R-1023	--	73042	--	
Assessment	FAP	10/23/2023 14:20	CH-CCR-HuntB-1023	--	73043	--	
Assessment	BAP	10/23/2023 13:00	CH-CCR-MW78A-1023	--	73044	--	
Assessment	BAP	10/25/2023 8:15	CH-CCR-EB01-1023	--	73045	--	Equipment blank
Assessment	BAP	10/19/2023 11:48	CH-CCR-M53A-1023	550-209476-1/2	--	--	
Assessment	BAP	10/19/2023 9:11	CH-CCR-MW69A-1023	550-209476-3/4	--	--	
Assessment	BAP	10/18/2023 15:43	CH-CCR-MW70M-1023	550-209476-5/6	--	--	
Assessment	BAP	10/18/2023 13:12	CH-CCR-MW71A-1023	550-209476-7/8	--	--	
Assessment	BAP	10/18/2023 14:02	CH-CCR-MW72M-1023	550-209476-9/10	--	--	
Assessment	BAP	10/18/2023 11:00	CH-CCR-MW73A-1023	550-209476-11/12	--	--	
Assessment	BAP	10/18/2023 10:00	CH-CCR-MW74M-1023	550-209476-13/14	--	--	
Assessment	BAP	10/17/2023 14:54	CH-CCR-MW77A-1023	550-209476-15/16	--	--	
Assessment	BAP	10/19/2023 15:52	CH-CCR-W301-1023	550-209476-17/18	--	--	
Assessment	BAP	10/19/2023 13:35	CH-CCR-W303-1023	550-209476-19/20	--	--	
Assessment	BAP	10/19/2023 10:30	CH-CCR-W306-1023	550-209476-21/22	--	--	
Assessment	BAP	10/19/2023 8:45	CH-CCR-W314-1023	550-209476-23/24	--	--	
Assessment	FAP	10/23/2023 16:30	CH-CCR-GeronimoC-1023	550-209610-1/2	--	--	
Assessment	FAP	10/23/2023 16:11	CH-CCR-GeronimoD-1023	550-209610-3/4	--	--	
Assessment	FAP	10/23/2023 17:13	CH-CCR-GSX1R-1023	550-209610-5/6	--	--	
Assessment	FAP	10/23/2023 15:15	CH-CCR-EW01-1023	550-209610-7/8	--	--	
Assessment	FAP	10/23/2023 15:45	CH-CCR-EW02-1023	550-209610-9/10	--	--	
Assessment	FAP	10/23/2023 16:45	CH-CCR-EW03-1023	550-209610-11/12	--	--	
Assessment	FAP	10/23/2023 17:32	CH-CCR-EW04-1023	550-209610-13/14	--	--	
Assessment	FAP	10/23/2023 14:20	CH-CCR-HuntB-1023	550-209610-15/16	--	--	
Assessment	BAP	10/23/2023 13:00	CH-CCR-MW78A-1023	550-209609-1/2	--	--	
Assessment	BAP	10/24/2023 8:42	CH-CCR-BAPTD-1023	550-209609-3/4	--	--	
Assessment	BAP	10/24/2023 9:09	CH-CCR-Petroglyph-1023	550-209609-5/6	--	--	
Assessment	BAP	10/24/2023 9:28	CH-CCR-TannerWash-1023	550-209609-7/8	--	--	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins Environment Testing Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Sub-Contracted Sample Identification	Notes
Assessment	BAP	10/24/2023 10:07	CH-CCR-TWX3-1023	550-209609-9/10	--	--	
Assessment	BAP	10/24/2023 10:25	CH-CCR-TWX5-1023	550-209609-11/12	--	--	
Assessment	BAP	10/24/2023 10:41	CH-CCR-TWX7-1023	550-209609-13/14	--	--	
Assessment	BAP	10/24/2023 15:41	CH-CCR-TWX9-1023	550-209609-15/16	--	--	
Assessment	BAP	10/24/2023 15:59	CH-CCR-TWX10-1023	550-209609-17/18	--	--	
Assessment	BAP	10/25/2023 8:15	CH-CCR-EB01-1023	550-209609-19/20	--	--	Equipment blank
Assessment	FAP	11/21/2023 16:20	CH-CCR-FD05-1023	550-210925-2	73310	--	Field Duplicate of CH-CCR-M44D-1023
Assessment	FAP	11/21/2023 8:46	CH-CCR-M44D-1023	550-210925-1	73311	--	
Assessment	BAP	11/21/2023 11:20	CH-CCR-W305-1123	--	73312	--	
Assessment	BAM	11/21/2023 10:29	CH-CCR-M54-1023	550-210926-1	--	--	
Assessment	BAM	11/21/2023 12:29	CH-CCR-M59-1023	550-210926-2	--	--	
Assessment	BAM	11/20/2023 17:48	CH-CCR-M60-1023	550-210926-3	--	--	
Assessment	BAM	11/20/2023 16:51	CH-CCR-M61-1023	550-210926-4	--	--	
Assessment	BAM	11/21/2023 13:31	CH-CCR-FD01-1023	550-210926-5	--	--	Field Duplicate of CH-CCR-M59-1023
Assessment	BAP	11/21/2023 11:20	CH-CCR-W305-1023	550-210901-1/2	--	23L1173-01	
Assessment	BAP	11/21/2023 13:23	CH-CCR-TWX6-1023	550-210901-3/4	--	23L1173-02/03	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M54-0123 and CH-CCR-FD01-0123					
Chloride	50 mg/L	1,600	1,500	6.5%	
Fluoride	0.80 mg/L	1.4	1.4	0.0%	
Sulfate	50 mg/L	390	380	2.6%	
Samples CH-CCR-M59-0423 and CH-CCR-FD01-0423					
Chloride	100 mg/L	1,300	1,400	7.4%	
Fluoride	0.80 mg/L	1.4	1.4	0.0%	
Sulfate	52 mg/L	360	350	2.8%	
Boron	0.050 mg/L	0.51	0.51	0.0%	
Calcium	2.0 mg/L	93	93	0.0%	
Total Dissolved Solids	40 mg/L	3,600	1,100	106%	J-FD
Total Dissolved Solids (reanalysis of M59)	70 mg/L	2,800	1,100	87%	J-FD
pH	1.7 SU	7.7	7.8	1.3%	
Samples CH-CCR-M79A-0423 and CH-CCR-FD02-0423					
Chloride	400 mg/L	2,400	2,400	0.0%	
Sulfate	400 mg/L	2,400	2,400	0.0%	
Lithium	0.020 mg/L	0.17	0.17	0.0%	
Boron	0.050 mg/L	0.39	0.39	0.0%	
Calcium	2.0 mg/L	880	860	2.3%	
Magnesium	2.0 mg/L	110	100	10%	
Manganese	0.010 mg/L	4.3	4.3	0.0%	
Potassium	0.50 mg/L	12	11	8.7%	
Sodium	2.5 mg/L	1,600	1,600	0.0%	
Barium	0.0050 mg/L	0.023	0.012	63%	J-FD
Cobalt	0.0050 mg/L	0.0097	0.0093	4.2%	
Molybdenum	0.0050 mg/L	0.016	0.015	6.5%	
Thallium	0.0010 mg/L	0.00026 J	0.00026 J	0.0%	
Alkalinity as CaCO ₃	6.0 mg/L	120	120	0.0%	
Bicarbonate Alkalinity as Ca	6.0 mg/L	120	120	0.0%	
Total Dissolved Solids	100 mg/L	7,400	3,000	85%	J-FD
pH	1.7 SU	7.5	7.8	3.9%	
Dissolved Organic Carbon	0.50 mg/L	1.2	1.3	8.0%	
Manganese, dissolved	0.010 mg/L	4.3	4.5	4.5%	
Cobalt, dissolved	5.0 µg/L	10	11	9.5%	
Radium 226	1 pCi/L	0.7 ± 0.2	0.5 U	NC	± RL
Total Radium	1 pCi/L	0.7 ± 0.2	0.6 U	NC	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-W307R-0423 and CH-CCR-FD03-0423					
Chloride	400 mg/L	2,400	2,500	4.1%	
Sulfate	400 mg/L	2,800	2,900	3.5%	
Lithium	0.020 mg/L	0.26	0.26	0.0%	
Boron	0.15 mg/L	2.8	2.9	3.5%	
Calcium	6.0 mg/L	710	700	1.4%	
Magnesium	6.0 mg/L	150	160	6.5%	
Manganese	0.030 mg/L	2.5	2.5	0.0%	
Potassium	1.5 mg/L	4.5	3.3	31%	± RL
Sodium	2.5 mg/L	1,900	1,700	11%	
Arsenic	0.0020 mg/L	0.00089 J	0.00085 J	4.6%	
Barium	0.0050 mg/L	0.011	0.010	9.5%	
Chromium	0.010 mg/L	0.0021 J	0.0023 J	9.1%	
Cobalt	0.0020 mg/L	0.063	0.064	1.6%	
Molybdenum	0.0050 mg/L	0.023	0.024	4.3%	
Arsenic, dissolved	0.0020 mg/L	0.00083 U	0.0017 J	NC	± RL
Cobalt, dissolved	0.0020 mg/L	0.059	0.064	8.1%	
Ammonia	0.050 mg/L	0.050 U	0.055	NC	± RL
Alkalinity as CaCO ₃	6.0 mg/L	120	120	0.0%	
Bicarbonate Alkalinity	6.0 mg/L	120	120	0.0%	
Total Dissolved Solids	100 mg/L	8,000	8,200	2.5%	
pH	1.7 SU	7.5	7.4	1.3%	
Manganese, dissolved	0.010 mg/L	2.5	2.5	0.0%	
Dissolved Organic Carbon	0.50 mg/L	1.1	1.1	0.0%	
Radium 228	1 pCi/L	0.6 U	0.9 ± 0.3	NC	± RL
Total Radium	1 pCi/L	0.6 U	0.9 ± 0.3	NC	± RL
Samples CH-CCR-W317-0423 and CH-CCR-FD04-0423					
Chloride	400 mg/L	1,600	1,600	0.0%	
Sulfate	400 mg/L	690	690	0.0%	
Lithium	0.020 mg/L	0.073	0.075	2.7%	
Boron	0.050 mg/L	0.22	0.22	0.0%	
Calcium	2.0 mg/L	410	410	0.0%	
Barium	0.0050 mg/L	0.035	0.035	0.0%	
Total Dissolved Solids	100 mg/L	7,000	7,000	0.0%	
pH	1.7 SU	7.4	7.6	2.7%	
Radium 228	1 pCi/L	1.2 ± 0.3	0.6 U	NC	± RL
Total Radium	1 pCi/L	1.2 ± 0.3	0.6 U	NC	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M63A-0423 and CH-CCR-FD05-0423					
Chloride	20 mg/L	440	440	0.0%	
Sulfate	20 mg/L	630	620	1.6%	
Lithium	0.020 mg/L	0.082	0.094	14%	
Boron	0.050 mg/L	0.24	0.27	12%	
Calcium	2.0 mg/L	200	210	4.9%	
Barium	0.0050 mg/L	0.030	0.030	0.0%	
Cobalt	0.0050 mg/L	0.0017 J	0.0015 J	13%	
Molybdenum	0.0050 mg/L	0.0033 J	0.0032 J	3.1%	
Thallium	0.0010 mg/L	0.00024 J	0.00017 J	34%	± RL
Total Dissolved Solids	20 mg/L	1,100	1,900	53%	J-FD
pH	1.7 SU	7.2	7.5	4.1%	
Radium 228	1 pCi/L	0.6 U	1.0 ± 0.3	NC	± RL
Total Radium	1 pCi/L	0.6 U	1.0 ± 0.3	NC	± RL
Samples CH-CCR-M59-1023 and CH-CCR-FD01-1023					
Chloride	202 mg/L	740	1,200	47%	J-FD
Fluoride	0.80 mg/L	1.3	1.3	0%	
Sulfate	202 mg/L	320	400 U	NC	± RL
Boron	0.050 mg/L	0.53	0.52	1.9%	
Calcium	2.0 mg/L	90	89	1.1%	
Total Dissolved Solids	40 mg/L	2,800	2,800	0.0%	
pH	1.7 SU	7.7	7.7	0.0%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-MW79A-1023 and CH-CCR-FD02-1023					
Chloride	100 mg/L	2,400	2,400	0.0%	
Fluoride	0.40 mg/L	0.89	0.52	52%	± RL
Sulfate	100 mg/L	2,400	2,400	0.0%	
Lithium	0.020 mg/L	0.15	0.16	6.5%	
Boron	0.050 mg/L	0.37	0.35	5.6%	
Calcium	2.0 mg/L	740	780	5.3%	
Magnesium	2.0 mg/L	90	95	5.4%	
Manganese	0.010 mg/L	3.9	3.9	0.0%	
Potassium	0.50 mg/L	9.7	11	13%	
Sodium	2.5 mg/L	1,600	1,500	6.5%	
Arsenic	0.0050 mg/L	0.0063	0.0060	4.9%	
Barium	0.0050 mg/L	0.011	0.015	31%	± RL
Cobalt	0.0050 mg/L	0.0094	0.0088	6.6%	
Molybdenum	0.0050 mg/L	0.014	0.015	6.9%	
Alkalinity as CaCO ₃	6.0 mg/L	120	120	0.0%	
Bicarbonate Alkalinity as Ca	6.0 mg/L	120	120	0.0%	
Total Dissolved Solids	100 mg/L	7,300	7,300	0.0%	
pH	1.7 SU	7.4	7.4	0.0%	
Dissolved Organic Carbon	0.50 mg/L	0.77	0.73	5.3%	
Manganese, dissolved	0.010 mg/L	3.8	3.9	2.6%	
Arsenic, dissolved	5.0 ug/L	6.2	6.0	3.3%	
Cobalt, dissolved	5.0 ug/L	8.9	9.0	1.1%	
Radium 228	1 pCi/L	0.7 ± 0.3	1.5 ± 0.4	73%	± RL
Total Radium	1 pCi/L	0.7 ± 0.3	1.5 ± 0.4	73%	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-W307R-1023 and CH-CCR-FD03-1023					
Chloride	100 mg/L	2,500	2,500	0.0%	
Fluoride	0.40 mg/L	0.62	0.61	1.6%	
Sulfate	100 mg/L	2,800	2,800	0.0%	
Lithium	0.020 mg/L	0.24	0.25	4.1%	
Boron	0.050 mg/L	2.5	2.6	3.9%	
Calcium	2.0 mg/L	700	720	2.8%	
Magnesium	2.0 mg/L	140	150	6.9%	
Manganese	0.010 mg/L	2.2	2.2	0.0%	
Potassium	0.50 mg/L	6.8	6.7	1.5%	
Sodium	2.5 mg/L	1,700	1,700	0.0%	
Arsenic	0.00050 mg/L	0.0013	0.0012	8.0%	
Barium	0.00050 mg/L	0.010	0.010	0.0%	
Cadmium	0.00010 mg/L	0.00042	0.00047	11%	
Chromium	0.0010 mg/L	0.0019	0.0025	27%	± RL
Cobalt	0.00050 mg/L	0.054	0.053	1.9%	
Lead	0.00050 mg/L	0.00050 U	0.00050	NC	± RL
Molybdenum	0.00050 mg/L	0.020	0.020	0.0%	
Alkalinity as CaCO ₃	6.0 mg/L	110	110	0.0%	
Bicarbonate Alkalinity as Ca	6.0 mg/L	110	110	0.0%	
Total Dissolved Solids	100 mg/L	7,600	7,900	3.9%	
pH	1.7 SU	7.50	7.4	1.3%	
Dissolved Organic Carbon	0.50 mg/L	1.2	1.3	8.0%	
Manganese	0.010 mg/L	2.0	2.1	4.9%	
Arsenic	0.50 ug/L	1.2	1.0	18%	
Cobalt	0.50 ug/L	53	51	3.8%	
Radium 228	1 pCi/L	1.0 ± 0.3	0.7 U	NC	± RL
Total Radium	1 pCi/L	1.0 ± 0.3	0.7 U	NC	± RL
Samples CH-CCR-W317-1023 and CH-CCR-FD04-1023					
Chloride	21.0 mg/L	1,600	78	181%	J-FD
Sulfate	21.0 mg/L	650	33	181%	J-FD
Lithium	0.020 mg/L	0.056	0.055	1.8%	
Boron	0.050 mg/L	0.18	0.19	5.4%	
Calcium	2.0 mg/L	350	350	0.0%	
Arsenic	0.00050 mg/L	0.0046	0.0043	6.7%	
Barium	0.00050 mg/L	0.032	0.0330	3.1%	
Molybdenum	0.00050 mg/L	0.0016	0.0016	0.0%	
Total Dissolved Solids	100 mg/L	3,700	3,800	2.7%	
pH	1.7 SU	7.6	7.6	0.0%	
Radium 226	1 pCi/L	1.1 ± 0.2	0.5 ± 0.2	75%	± RL
Total Radium	1 pCi/L	1.1 ± 0.2	0.5 ± 0.2	75%	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M44D-1023 and CH-CCR-FD05-1023					
Chloride	400 mg/L	1,000	1,100	9.5%	
Boron	0.050 mg/L	0.33	0.32	3.1%	
Calcium	2.0 mg/L	98	100	2.0%	
Arsenic	0.00050 mg/L	0.0019	0.0018	5.4%	
Barium	0.00050 mg/L	0.029	0.027	7.1%	
Molybdenum	0.00050 mg/L	0.0022	0.0021	4.7%	
Total Dissolved Solids	40 mg/L	2,300	2,300	0.0%	
pH	1.7 SU	7.2	7.1	1.4%	
Radium 226	1 pCi/L	2.8 ± 0.3	2.7 ± 0.3	3.6%	
Radium 228	1 pCi/L	1.8 ± 0.4	1.4 ± 0.4	25%	± RL
Total Radium	1 pCi/L	4.6 ± 0.5	4.1 ± 0.5	11%	
Samples CH-CCR-M63A-1023 and CH-CCR-FD06-1023					
Chloride	4.0 mg/L	150	160	6.5%	
Sulfate	20 mg/L	480	480	0.0%	
Lithium	0.020 mg/L	0.066	0.067	1.5%	
Boron	0.050 mg/L	0.20	0.21	4.9%	
Calcium	2.0 mg/L	130	130	0.0%	
Arsenic	0.0050 mg/L	0.0089	0.0093	4.4%	
Barium	0.0050 mg/L	0.028	0.0280	0.0%	
Total Dissolved Solids	20 mg/L	1,600	1,600	0.0%	
pH	1.7 SU	7.7	7.6	1.3%	
Radium 226	1 pCi/L	0.9 ± 0.2	1.1 ± 0.2	20%	
Total Radium	1 pCi/L	0.9 ± 0.2	1.1 ± 0.2	20%	

**TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data**

Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-FD01-0423	J200389-1	EPA 300.0	Sulfate	350 mg/L	J RT
CH-CCR-FD01-0423	J200389-1	SM 2540C	Total Dissolved Solids	1,100 mg/L	J RT, FD, HD
CH-CCR-FD01-0423	J200389-1	SM 4500HB	pH	7.8 SU	J HT, RT
CH-CCR-M54-0423	J200389-1	EPA 300.0	Sulfate	370 mg/L	J RT
CH-CCR-M54-0423	J200389-1	SM 2540C	Total Dissolved Solids	6,900 mg/L	J RT
CH-CCR-M54-0423	J200389-1	SM 4500HB	pH	7.8 SU	J HT, RT
CH-CCR-M59-0423	J200389-1	EPA 300.0	Sulfate	360 mg/L	J RT
CH-CCR-M59-0423	J200389-1	SM 2540C	Total Dissolved Solids	3,600 mg/L	J RT, FD, HD
CH-CCR-M59-0423	J200389-1	SM 4500HB	pH	7.7 SU	J HT, RT
CH-CCR-M61-0423	J200389-1	EPA 300.0	Sulfate	350 mg/L	J RT
CH-CCR-M61-0423	J200389-1	SM 2540C	Total Dissolved Solids	2,900 mg/L	J RT
CH-CCR-M61-0423	J200389-1	SM 4500HB	pH	7.8 SU	J HT, RT
CH-CCR-M54-0423	J200389-2	SM 2540C	Total Dissolved Solids	3,100 mg/L	J HT
CH-CCR-M59-0423	J200389-2	SM 2540C	Total Dissolved Solids	2,800 mg/L	J HT, FD
CH-CCR-FD02-0423	J200842	EPA 200.7	Boron	0.39 mg/L	J HL
CH-CCR-FD02-0423	J200842	EPA 200.8	Barium	0.012 mg/L	J FD
CH-CCR-FD02-0423	J200842	EPA 300.0	Sulfate	2,400 mg/L	J RT
CH-CCR-FD02-0423	J200842	EPA 350.1	Ammonia	0.050 mg/L	UJ RT
CH-CCR-FD02-0423	J200842	EPA 353.2	Nitrate Nitrite as N	0.10 mg/L	UJ RT
CH-CCR-FD02-0423	J200842	SM 2320B	Alkalinity as CaCO3	120 mg/L	J RT
CH-CCR-FD02-0423	J200842	SM 2320B	Alkalinity, Phenolphthalein	6.0 mg/L	UJ RT
CH-CCR-FD02-0423	J200842	SM 2320B	Bicarbonate Alkalinity as CaCO3	120 mg/L	J RT
CH-CCR-FD02-0423	J200842	SM 2320B	Carbonate Alkalinity as CaCO3	6.0 mg/L	UJ RT
CH-CCR-FD02-0423	J200842	SM 2320B	Hydroxide Alkalinity as CaCO3	6.0 mg/L	UJ RT
CH-CCR-FD02-0423	J200842	SM 2540C	Total Dissolved Solids	3,000 mg/L	J RT, FD
CH-CCR-FD02-0423	J200842	SM 4500HB	pH	7.8 SU	J RT, HT
CH-CCR-FD02-0423	J200842	SM 5310B	Dissolved Organic Carbon	1.3 mg/L	J RT
CH-CCR-FD02-0423	J200842	SM 5310B	Dissolved Organic Carbon - Duplicate	1.4 mg/L	J RT
CH-CCR-FD02-0423	J200842	SM 5310B	Dissolved Organic Carbon - Quad	1.3 mg/L	J RT
CH-CCR-FD04-0423	J200842	EPA 200.7	Boron	0.22 mg/L	J HL
CH-CCR-FD04-0423	J200842	EPA 300.0	Sulfate	690 mg/L	J RT
CH-CCR-FD04-0423	J200842	SM 2540C	Total Dissolved Solids	7,000 mg/L	J RT
CH-CCR-FD04-0423	J200842	SM 4500HB	pH	7.6 SU	J RT, HT
CH-CCR-MW79A-0423	J200842	EPA 200.7	Boron	0.39 mg/L	J HL
CH-CCR-MW79A-0423	J200842	EPA 200.8	Barium	0.023 mg/L	J FD
CH-CCR-MW79A-0423	J200842	EPA 300.0	Sulfate	2,400 mg/L	J RT
CH-CCR-MW79A-0423	J200842	EPA 350.1	Ammonia	0.050 mg/L	UJ RT
CH-CCR-MW79A-0423	J200842	EPA 353.2	Nitrate Nitrite as N	0.10 mg/L	UJ RT
CH-CCR-MW79A-0423	J200842	SM 2320B	Alkalinity as CaCO3	120 mg/L	J RT
CH-CCR-MW79A-0423	J200842	SM 2320B	Alkalinity, Phenolphthalein	6.0 mg/L	UJ RT
CH-CCR-MW79A-0423	J200842	SM 2320B	Bicarbonate Alkalinity as CaCO3	120 mg/L	J RT
CH-CCR-MW79A-0423	J200842	SM 2320B	Carbonate Alkalinity as CaCO3	6.0 mg/L	UJ RT
CH-CCR-MW79A-0423	J200842	SM 2320B	Hydroxide Alkalinity as CaCO3	6.0 mg/L	UJ RT

**TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data**

Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-MW79A-0423	J200842	SM 2540C	Total Dissolved Solids	7,400 mg/L	J RT, FD
CH-CCR-MW79A-0423	J200842	SM 4500HB	pH	7.5 SU	J RT, HT
CH-CCR-MW79A-0423	J200842	SM 5310B	Dissolved Organic Carbon	1.2 mg/L	J RT
CH-CCR-MW79A-0423	J200842	SM 5310B	Dissolved Organic Carbon - Duplicate	1.2 mg/L	J RT
CH-CCR-MW79A-0423	J200842	SM 5310B	Dissolved Organic Carbon - Quad	1.2 mg/L	J RT
CH-CCR-W305-0423	J200842	EPA 200.7	Boron	0.48 mg/L	J HL
CH-CCR-W305-0423	J200842	EPA 300.0	Sulfate	2,300 mg/L	J RT
CH-CCR-W305-0423	J200842	EPA 350.1	Ammonia	0.17 mg/L	J RT
CH-CCR-W305-0423	J200842	EPA 353.2	Nitrate Nitrite as N	0.10 mg/L	UJ RT
CH-CCR-W305-0423	J200842	SM 2320B	Alkalinity as CaCO3	100 mg/L	J RT
CH-CCR-W305-0423	J200842	SM 2320B	Alkalinity, Phenolphthalein	6.0 mg/L	UJ RT
CH-CCR-W305-0423	J200842	SM 2320B	Bicarbonate Alkalinity as CaCO3	100 mg/L	J RT
CH-CCR-W305-0423	J200842	SM 2320B	Carbonate Alkalinity as CaCO3	6.0 mg/L	UJ RT
CH-CCR-W305-0423	J200842	SM 2320B	Hydroxide Alkalinity as CaCO3	6.0 mg/L	UJ RT
CH-CCR-W305-0423	J200842	SM 2540C	Total Dissolved Solids	7,200 mg/L	J RT
CH-CCR-W305-0423	J200842	SM 4500HB	pH	7.4 SU	J RT, HT
CH-CCR-W305-0423	J200842	SM 5310B	Dissolved Organic Carbon	2.3 mg/L	J RT
CH-CCR-W305-0423	J200842	SM 5310B	Dissolved Organic Carbon - Duplicate	2.3 mg/L	J RT
CH-CCR-W305-0423	J200842	SM 5310B	Dissolved Organic Carbon - Quad	2.3 mg/L	J RT
CH-CCR-W317-0423	J200842	EPA 200.7	Boron	0.22 mg/L	J HL
CH-CCR-W317-0423	J200842	EPA 300.0	Sulfate	690 mg/L	J RT
CH-CCR-W317-0423	J200842	SM 2540C	Total Dissolved Solids	7,000 mg/L	J RT
CH-CCR-W317-0423	J200842	SM 4500HB	pH	7.4 SU	J RT, HT
CH-CCR-FD05-0423	J200849	EPA 200.7	Boron	0.27 mg/L	J HL
CH-CCR-FD05-0423	J200849	EPA 200.8	Cobalt	0.0015 mg/L	J DL
CH-CCR-FD05-0423	J200849	EPA 200.8	Molybdenum	0.0032 mg/L	J DL
CH-CCR-FD05-0423	J200849	EPA 200.8	Thallium	0.00017 mg/L	J DL
CH-CCR-FD05-0423	J200849	SM 2540C	Total Dissolved Solids	1,900 mg/L	J FD
CH-CCR-FD05-0423	J200849	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M43A-0423	J200849	EPA 200.7	Boron	1.7 mg/L	J HL
CH-CCR-M43A-0423	J200849	EPA 200.8	Cobalt, dissolved	0.64 µg/L	J DL
CH-CCR-M43A-0423	J200849	EPA 200.8	Molybdenum	0.0036 mg/L	J DL
CH-CCR-M43A-0423	J200849	EPA 200.8	Thallium	0.00013 mg/L	J DL
CH-CCR-M43A-0423	J200849	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-M44D-0423	J200849	EPA 200.7	Boron	0.27 mg/L	J HL
CH-CCR-M44D-0423	J200849	EPA 300.0	Sulfate	320 mg/L	J RT
CH-CCR-M44D-0423	J200849	SM 2540C	Total Dissolved Solids	4,600 mg/L	J RT
CH-CCR-M44D-0423	J200849	SM 4500HB	pH	7.5 SU	J RT, HT
CH-CCR-M45A-0423	J200849	EPA 200.7	Boron	1.2 mg/L	J HL
CH-CCR-M45A-0423	J200849	EPA 200.8	Cobalt	0.00081 mg/L	J DL
CH-CCR-M45A-0423	J200849	EPA 200.8	Molybdenum	0.0028 mg/L	J DL
CH-CCR-M45A-0423	J200849	EPA 200.8	Thallium	0.00015 mg/L	J DL
CH-CCR-M45A-0423	J200849	SM 4500HB	pH	7.2 SU	J HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-M46A-0423	J200849	EPA 200.7	Boron	0.74 mg/L	J HL
CH-CCR-M46A-0423	J200849	EPA 200.8	Arsenic	0.0031 mg/L	J DL
CH-CCR-M46A-0423	J200849	EPA 200.8	Cobalt	0.0011 mg/L	J DL
CH-CCR-M46A-0423	J200849	EPA 200.8	Cobalt, dissolved	2.0 µg/L	J DL
CH-CCR-M46A-0423	J200849	EPA 200.8	Selenium	0.0013 mg/L	J DL
CH-CCR-M46A-0423	J200849	EPA 200.8	Thallium	0.00013 mg/L	J DL
CH-CCR-M46A-0423	J200849	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-M63A-0423	J200849	EPA 200.7	Boron	0.24 mg/L	J HL
CH-CCR-M63A-0423	J200849	EPA 200.8	Cobalt	0.0017 mg/L	J DL
CH-CCR-M63A-0423	J200849	EPA 200.8	Molybdenum	0.0033 mg/L	J DL
CH-CCR-M63A-0423	J200849	EPA 200.8	Thallium	0.00024 mg/L	J DL
CH-CCR-M63A-0423	J200849	SM 2540C	Total Dissolved Solids	1,100 mg/L	J FD
CH-CCR-M63A-0423	J200849	SM 4500HB	pH	7.2 SU	J HT
CH-CCR-M65A-0423	J200849	EPA 200.7	Boron	11 mg/L	J HL
CH-CCR-M65A-0423	J200849	EPA 200.8	Cobalt	0.0026 mg/L	J DL
CH-CCR-M65A-0423	J200849	EPA 200.8	Cobalt, dissolved	2.5 µg/L	J DL
CH-CCR-M65A-0423	J200849	EPA 200.8	Thallium	0.00014 mg/L	J DL
CH-CCR-M65A-0423	J200849	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M66A-0423	J200849	EPA 200.7	Boron	2.6 mg/L	J HL
CH-CCR-M66A-0423	J200849	EPA 200.8	Cadmium	0.00024 mg/L	J DL
CH-CCR-M66A-0423	J200849	EPA 200.8	Cobalt	0.0015 mg/L	J DL
CH-CCR-M66A-0423	J200849	EPA 200.8	Cobalt, dissolved	1.1 µg/L	J DL
CH-CCR-M66A-0423	J200849	EPA 200.8	Thallium	0.00018 mg/L	J DL
CH-CCR-M66A-0423	J200849	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-M67A-0423	J200849	EPA 200.7	Boron	0.46 mg/L	J HL
CH-CCR-M67A-0423	J200849	EPA 200.8	Cobalt, dissolved	4.9 µg/L	J DL
CH-CCR-M67A-0423	J200849	EPA 200.8	Thallium	0.00016 mg/L	J DL
CH-CCR-M67A-0423	J200849	SM 4500HB	pH	7.2 SU	J HT
CH-CCR-W126R-0423	J200849	EPA 200.7	Boron	44 mg/L	J HL
CH-CCR-W126R-0423	J200849	EPA 200.8	Cobalt	0.0048 mg/L	J DL
CH-CCR-W126R-0423	J200849	EPA 200.8	Cobalt, dissolved	4.5 µg/L	J DL
CH-CCR-W126R-0423	J200849	EPA 200.8	Thallium	0.00021 mg/L	J DL
CH-CCR-W126R-0423	J200849	EPA 353.2	Nitrate Nitrite as N	0.10 mg/L	R LM
CH-CCR-W126R-0423	J200849	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-BudHunt-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M50A-0423	J201150	EPA 200.8	Antimony	0.00043 mg/L	J MB, DL
CH-CCR-M50A-0423	J201150	EPA 200.8	Cobalt, dissolved	0.00069 mg/L	J DL
CH-CCR-M50A-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M51A-0423	J201150	EPA 200.8	Cobalt	0.0022 mg/L	J DL
CH-CCR-M51A-0423	J201150	EPA 200.8	Cobalt, dissolved	0.0021 mg/L	J DL
CH-CCR-M51A-0423	J201150	EPA 200.8	Selenium	0.0067 mg/L	J MB, DL
CH-CCR-M51A-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M52A-0423	J201150	EPA 200.7	Potassium	6.0 mg/L	J HM
CH-CCR-M52A-0423	J201150	EPA 200.8	Cadmium	0.00061 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-M52A-0423	J201150	EPA 200.8	Chromium	0.0085 mg/L	J DL
CH-CCR-M52A-0423	J201150	EPA 200.8	Selenium	0.0046 mg/L	J DL
CH-CCR-M52A-0423	J201150	EPA 350.1	Ammonia	0.050 mg/L	UJ LM
CH-CCR-M52A-0423	J201150	SM 4500HB	pH	6.9 SU	J HT
CH-CCR-M53A-0423	J201150	EPA 200.8	Antimony	0.0017 mg/L	J MB, DL
CH-CCR-M53A-0423	J201150	EPA 200.8	Selenium	0.0050 mg/L	UJ LM
CH-CCR-M53A-0423	J201150	EPA 200.8	Thallium	0.00041 mg/L	J DL
CH-CCR-M53A-0423	J201150	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-M55A-0423	J201150	EPA 200.8	Antimony	0.0012 mg/L	J MB, DL
CH-CCR-M55A-0423	J201150	EPA 200.8	Cadmium	0.00030 mg/L	J DL
CH-CCR-M55A-0423	J201150	EPA 200.8	Thallium	0.00017 mg/L	J DL
CH-CCR-M55A-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M64A-0423	J201150	EPA 200.8	Molybdenum	0.0044 mg/L	J DL
CH-CCR-M64A-0423	J201150	SM 4500HB	pH	6.9 SU	J HT
CH-CCR-MW69A-0423	J201150	EPA 200.8	Antimony	0.0010 mg/L	J MB, DL
CH-CCR-MW69A-0423	J201150	EPA 200.8	Cadmium	0.00024 mg/L	J DL
CH-CCR-MW69A-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-MW69A-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-MW70M-0423	J201150	EPA 200.8	Antimony	0.00088 mg/L	J MB, DL
CH-CCR-MW70M-0423	J201150	EPA 200.8	Cadmium	0.00071 mg/L	J DL
CH-CCR-MW70M-0423	J201150	EPA 200.8	Thallium	0.00019 mg/L	J DL
CH-CCR-MW70M-0423	J201150	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-MW71A-0423	J201150	EPA 200.8	Antimony	0.00074 mg/L	J MB, DL
CH-CCR-MW71A-0423	J201150	EPA 200.8	Cadmium	0.00032 mg/L	J DL
CH-CCR-MW71A-0423	J201150	EPA 200.8	Thallium	0.00014 mg/L	J DL
CH-CCR-MW71A-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-MW72M-0423	J201150	EPA 200.8	Antimony	0.0014 mg/L	J MB, DL
CH-CCR-MW72M-0423	J201150	EPA 200.8	Cadmium	0.00063 mg/L	J DL
CH-CCR-MW72M-0423	J201150	EPA 200.8	Cobalt	0.0032 mg/L	J DL
CH-CCR-MW72M-0423	J201150	EPA 200.8	Cobalt, dissolved	0.0041 mg/L	J DL
CH-CCR-MW72M-0423	J201150	EPA 200.8	Selenium	0.013 mg/L	J MB
CH-CCR-MW72M-0423	J201150	SM 4500HB	pH	7.1 SU	J HT
CH-CCR-MW73A-0423	J201150	EPA 200.8	Antimony	0.00062 mg/L	J MB, DL
CH-CCR-MW73A-0423	J201150	EPA 200.8	Selenium	0.0067 mg/L	J MB, DL
CH-CCR-MW73A-0423	J201150	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-MW74M-0423	J201150	EPA 200.8	Antimony	0.00050 mg/L	J MB, DL
CH-CCR-MW74M-0423	J201150	EPA 200.8	Cadmium	0.00026 mg/L	J DL
CH-CCR-MW74M-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-W123R-0423	J201150	EPA 200.8	Cobalt	0.0031 mg/L	J DL
CH-CCR-W123R-0423	J201150	EPA 200.8	Cobalt, dissolved	0.0040 mg/L	J DL
CH-CCR-W123R-0423	J201150	EPA 200.8	Thallium	0.00024 mg/L	J DL
CH-CCR-W123R-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-W125-0423_A	J201150	EPA 200.8	Molybdenum	0.0023 mg/L	J DL
CH-CCR-W125-0423_A	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-W301-0423	J201150	EPA 200.8	Antimony	0.00056 mg/L	J MB, DL
CH-CCR-W301-0423	J201150	EPA 200.8	Cadmium	0.00025 mg/L	J DL
CH-CCR-W301-0423	J201150	EPA 200.8	Chromium	0.0085 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
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Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-W301-0423	J201150	EPA 200.8	Thallium	0.00014 mg/L	J DL
CH-CCR-W301-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W303-0423	J201150	EPA 200.8	Antimony	0.00049 mg/L	J MB, DL
CH-CCR-W303-0423	J201150	EPA 200.8	Barium	0.0044 mg/L	J DL
CH-CCR-W303-0423	J201150	EPA 350.1	Ammonia	0.050 mg/L	UJ LM
CH-CCR-W303-0423	J201150	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-W306-0423	J201150	EPA 200.8	Antimony	0.00066 mg/L	J MB, DL
CH-CCR-W306-0423	J201150	EPA 200.8	Arsenic, dissolved	0.0029 mg/L	J DL
CH-CCR-W306-0423	J201150	EPA 200.8	Cadmium	0.00026 mg/L	J DL
CH-CCR-W306-0423	J201150	EPA 200.8	Cobalt, dissolved	0.0015 mg/L	J DL
CH-CCR-W306-0423	J201150	SM 4500HB	pH	7.9 SU	J HT
CH-CCR-W308-0423	J201150	EPA 200.8	Antimony	0.00080 mg/L	J MB, DL
CH-CCR-W308-0423	J201150	EPA 200.8	Cobalt, dissolved	0.0013 mg/L	J DL
CH-CCR-W308-0423	J201150	EPA 200.8	Molybdenum	0.0030 mg/L	J DL
CH-CCR-W308-0423	J201150	EPA 200.8	Thallium	0.00013 mg/L	J DL
CH-CCR-W308-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W309-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W309-0423	J201150	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W314-0423	J201150	EPA 200.8	Cadmium	0.00053 mg/L	J DL
CH-CCR-W314-0423	J201150	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-BAP-0423	J201346	EPA 200.8	Chromium	0.0012 mg/L	J DL
CH-CCR-BAP-0423	J201346	EPA 200.8	Cobalt	0.00062 mg/L	J DL
CH-CCR-BAP-0423	J201346	SM 4500HB	pH	8.3 SU	J HT
CH-CCR-BAP-0423	J201346	SM 4500HB	pH	8.4 SU	J HT
CH-CCR-BAPTD-0423	J201346	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-FAP-0423	J201346	EPA 200.8	Antimony	0.052 mg/L	J DL
CH-CCR-FAP-0423	J201346	SM 4500HB	pH	7.1 SU	J HT
CH-CCR-FD03-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0017 mg/L	J DL
CH-CCR-FD03-0423	J201346	EPA 200.8	Arsenic	0.00085 mg/L	J DL
CH-CCR-FD03-0423	J201346	EPA 200.8	Chromium	0.0023 mg/L	J DL
CH-CCR-FD03-0423	J201346	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-GeronimoC-0423	J201346	EPA 200.8	Chromium	0.0032 mg/L	J DL
CH-CCR-GeronimoC-0423	J201346	SM 4500HB	pH	7.2 SU	J HT
CH-CCR-GeronimoD-0423	J201346	EPA 200.8	Chromium	0.0033 mg/L	J DL
CH-CCR-GeronimoD-0423	J201346	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-HuntB-0423	J201346	EPA 200.7	Iron	0.50 mg/L	UJ TD
CH-CCR-HuntB-0423	J201346	EPA 200.7	Iron, dissolved	0.90 mg/L	J HL, TD
CH-CCR-HuntB-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0013 mg/L	J DL
CH-CCR-HuntB-0423	J201346	SM 4500HB	pH	7.8 SU	J HT
CH-CCR-HuntB-0423	J201346	SM 5310B	Dissolved Organic Carbon	2.0 mg/L	J LM
CH-CCR-HuntB-0423	J201346	SM 5310B	Dissolved Organic Carbon - Duplicate	2.0 mg/L	J LM
CH-CCR-HuntB-0423	J201346	SM 5310B	Dissolved Organic Carbon - Quad	2.0 mg/L	J LM
CH-CCR-MW77A-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0012 mg/L	J DL
CH-CCR-MW77A-0423	J201346	EPA 200.8	Arsenic	0.00089 mg/L	J DL
CH-CCR-MW77A-0423	J201346	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-MW78A-0423	J201346	EPA 200.8	Cobalt, dissolved	0.0015 mg/L	J DL
CH-CCR-MW78A-0423	J201346	EPA 200.8	Cobalt	0.0016 mg/L	J DL

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Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-MW78A-0423	J201346	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-Petroglyph-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0017 mg/L	J DL
CH-CCR-Petroglyph-0423	J201346	EPA 350.1	Ammonia	0.079 mg/L	J LM
CH-CCR-Petroglyph-0423	J201346	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TannerWash-0423	J201346	EPA 200.8	Chromium	0.0056 mg/L	J DL
CH-CCR-TannerWash-0423	J201346	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TWX10-0423	J201346	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-TWX3-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0012 mg/L	J DL
CH-CCR-TWX3-0423	J201346	EPA 200.8	Arsenic	0.0014 mg/L	J DL
CH-CCR-TWX3-0423	J201346	EPA 200.8	Lead	0.0017 mg/L	J DL
CH-CCR-TWX3-0423	J201346	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TWX5-0423	J201346	EPA 200.8	Arsenic, dissolved	0.00096 mg/L	J DL
CH-CCR-TWX5-0423	J201346	EPA 200.8	Arsenic	0.0013 mg/L	J DL
CH-CCR-TWX5-0423	J201346	EPA 200.8	Chromium	0.0057 mg/L	J DL
CH-CCR-TWX5-0423	J201346	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-TWX6-0423	J201346	EPA 200.8	Cadmium	0.0017 mg/L	J DL
CH-CCR-TWX6-0423	J201346	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-TWX6-0423	J201346	SM 5310B	Total Organic Carbon	0.97 mg/L	J LM
CH-CCR-TWX6-0423	J201346	SM 5310B	Total Organic Carbon - Duplicates	0.97 mg/L	J LM
CH-CCR-TWX6-0423	J201346	SM 5310B	Total Organic Carbon - Quad	1.0 mg/L	J LM
CH-CCR-TWX7-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0012 mg/L	J DL
CH-CCR-TWX7-0423	J201346	EPA 200.8	Cadmium	0.00055 mg/L	J DL
CH-CCR-TWX7-0423	J201346	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TWX9-0423	J201346	EPA 200.8	Arsenic, dissolved	0.0012 mg/L	J DL
CH-CCR-TWX9-0423	J201346	EPA 200.8	Barium	0.0038 mg/L	J DL
CH-CCR-TWX9-0423	J201346	EPA 200.8	Cadmium	0.0010 mg/L	J DL
CH-CCR-TWX9-0423	J201346	EPA 200.8	Lead	0.0016 mg/L	J DL
CH-CCR-TWX9-0423	J201346	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W302-0423	J201346	EPA 200.8	Molybdenum	0.0031 mg/L	J DL
CH-CCR-W302-0423	J201346	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-W302-0423	J201346	SM 5310B	Dissolved Organic Carbon	0.87 mg/L	J LM
CH-CCR-W302-0423	J201346	SM 5310B	Dissolved Organic Carbon - Duplicate	0.87 mg/L	J LM
CH-CCR-W302-0423	J201346	SM 5310B	Dissolved Organic Carbon - Quad	0.87 mg/L	J LM
CH-CCR-W304-0423	J201346	EPA 200.8	Chromium	0.0059 mg/L	J DL
CH-CCR-W304-0423	J201346	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W307R-0423	J201346	EPA 200.8	Arsenic	0.00089 mg/L	J DL
CH-CCR-W307R-0423	J201346	EPA 200.8	Chromium	0.0021 mg/L	J DL
CH-CCR-W307R-0423	J201346	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M60-0523	J202028	SM 4500HB	pH	7.7 SU	J HT
CRT3-W307R-0623	J203635	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-FD06-1023	J209145	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M63A-1023	J209145	SM 4500HB	pH	7.6 SU	J HT
CH-CCT-M64A-1023	J209145	SM 4500HB	pH	7.4 SU	J HT
CH-CCT-M64A-1023	J209145	SM 5310B	Dissolved Organic Carbon	0.5 mg/L	J HM
CH-CCT-M64A-1023	J209145	SM 5310B	Dissolved Organic Carbon - Duplicate	0.5 mg/L	J HM

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
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Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCT-M64A-1023	J209145	SM 5310B	Dissolved Organic Carbon - Quad	0.5 mg/L	J HM
CH-CCR-W123R-1023	J209145	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-FAP-1023	J209145	SM 4500HB	pH	6.1 SU	J HT
CH-CCR-BAP-1023	J209146	SM 4500HB	pH	8.3 SU	J HT
CH-CCR-FD02-1023	J209146	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-FD03-1023	J209146	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-FD04-1023	J209146	EPA 300.0	Chloride	78 mg/L	J FD
CH-CCR-FD04-1023	J209146	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-FD04-1023	J209146	EPA 300.0	Sulfate	33 mg/L	J FD
CH-CCR-M52A-1023	J209146	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-M55A-1023	J209146	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-MW79A-1023	J209146	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-W302-1023	J209146	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-W304-1023	J209146	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W307R-1023	J209146	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W308-1023	J209146	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-W309-1023	J209146	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W317-1023	J209146	EPA 300.0	Chloride	1600 mg/L	J FD
CH-CCR-W317-1023	J209146	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W317-1023	J209146	EPA 300.0	Sulfate	650 mg/L	J FD
CH-CCR-BudHunt-1023	J209471	EPA 200.8	Barium	0.012 mg/L	J HL
CH-CCR-BudHunt-1023	J209471	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M43A-1023	J209471	EPA 200.8	Barium	0.018 mg/L	J HL
CH-CCR-M43A-1023	J209471	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-M452-1023	J209471	EPA 200.8	Barium	0.013 mg/L	J HL
CH-CCR-M452-1023	J209471	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-M46A-1023	J209471	EPA 200.8	Barium	0.020 mg/L	J HL
CH-CCR-M46A-1023	J209471	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-M50A-1023	J209471	EPA 200.8	Barium	0.0084 mg/L	J HL
CH-CCR-M50A-1023	J209471	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-M51A-1023	J209471	EPA 200.8	Barium	0.0077 mg/L	J HL
CH-CCR-M51A-1023	J209471	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-M65A-1023	J209471	EPA 200.8	Barium	0.021 mg/L	J HL
CH-CCR-M65A-1023	J209471	SM 4500HB	pH	6.9 SU	J HT
CH-CCR-M66A-1023	J209471	EPA 200.8	Barium	0.019 mg/L	J HL
CH-CCR-M66A-1023	J209471	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-M67A-1023	J209471	EPA 200.8	Barium	0.034 mg/L	J HL
CH-CCR-M67A-1023	J209471	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-W125-1023	J209471	EPA 200.8	Barium	0.020 mg/L	J HL
CH-CCR-W125-1023	J209471	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W-126R-1023	J209471	EPA 200.8	Barium	0.0099 mg/L	J HL
CH-CCR-W-126R-1023	J209471	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-M53A-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL

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CH-CCR-M53A-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-M53A-1023	J209476	EPA 200.8	Barium	0.012 mg/L	J HL
CH-CCR-M53A-1023	J209476	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-MW69A-1023	J209476	EPA 200.7	Iron	0.50 mg/L	J LL
CH-CCR-MW69A-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW69A-1023	J209476	EPA 200.8	Barium	0.019 mg/L	J HL
CH-CCR-MW69A-1023	J209476	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-MW70M-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-MW70M-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW70M-1023	J209476	EPA 200.8	Barium	0.011 mg/L	J HL
CH-CCR-MW70M-1023	J209476	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-MW71A-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-MW71A-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW71A-1023	J209476	EPA 200.8	Barium	0.013 mg/L	J HL
CH-CCR-MW71A-1023	J209476	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-MW72M-1023	J209476	EPA 200.8	Barium	0.13 mg/L	J HL
CH-CCR-MW72M-1023	J209476	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-MW73A-1023	J209476	EPA 200.7	Iron	0.44 mg/L	J LL
CH-CCR-MW73A-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW73A-1023	J209476	EPA 200.8	Barium	0.012 mg/L	J HL
CH-CCR-MW73A-1023	J209476	SM 4500HB	pH	7.2 SU	J HT
CH-CCR-MW74M-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-MW74M-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW74M-1023	J209476	EPA 200.8	Barium	0.0088 mg/L	J HL
CH-CCR-MW74M-1023	J209476	SM 4500HB	pH	7.9 SU	J HT
CH-CCR-MW77A-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-MW77A-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-MW77A-1023	J209476	EPA 200.8	Barium	0.0079 mg/L	J HL
CH-CCR-MW77A-1023	J209476	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W301-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-W301-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-W301-1023	J209476	EPA 200.8	Barium	0.0072 mg/L	J HL
CH-CCR-W301-1023	J209476	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-W303-1023	J209476	EPA 200.7	Iron	0.10 mg/L	UJ LL
CH-CCR-W303-1023	J209476	EPA 200.7	Iron, dissolved	0.10 mg/L	UJ LL
CH-CCR-W303-1023	J209476	EPA 200.8	Barium	0.0037 mg/L	J HL
CH-CCR-W303-1023	J209476	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-W306-1023	J209476	EPA 200.8	Barium	0.012 mg/L	J HL
CH-CCR-W306-1023	J209476	SM 4500HB	pH	7.9 SU	J HT
CH-CCR-W314-1023	J209476	EPA 200.8	Barium	0.0090 mg/L	J HL
CH-CCR-W314-1023	J209476	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-EW01-1023	J209610	EPA 200.7	Iron	14 mg/L	J TD
CH-CCR-EW01-1023	J209610	EPA 200.7	Iron, dissolved	67 mg/L	J TD

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Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-EW01-1023	J209610	EPA 200.7	Manganese	3.0 mg/L	J TD
CH-CCR-EW01-1023	J209610	EPA 200.7	Manganese, dissolved	9.7 mg/L	J TD
CH-CCR-EW01-1023	J209610	SM 4500HB	pH	6.7 SU	J HT
CH-CCR-EW02-1023	J209610	EPA 200.7	Iron	2.4 mg/L	J TD
CH-CCR-EW02-1023	J209610	EPA 200.7	Iron, dissolved	3.2 mg/L	J TD
CH-CCR-EW02-1023	J209610	EPA 200.7	Manganese	8.5 mg/L	J TD
CH-CCR-EW02-1023	J209610	EPA 200.7	Manganese, dissolved	11 mg/L	J TD
CH-CCR-EW02-1023	J209610	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-EW03-1023	J209610	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-EW04-1023	J209610	SM 4500HB	pH	7.8 SU	J HT
CH-CCR-GeronimoC-1023	J209610	EPA 200.8	Selenium	0.005 mg/L	UJ LM
CH-CCR-GeronimoC-1023	J209610	SM 4500HB	pH	7.1 SU	J HT
CH-CCR-GeronimoD-1023	J209610	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-GSX1R-1023	J209610	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-HuntB-1023	J209610	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-BAPTD-1023	J209609	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-MW78A-1023	J209609	EPA 200.8	Antimony	0.001 mg/L	UJ LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Arsenic	0.00086 mg/L	J LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Barium	0.0022 mg/L	J LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Cadmium	0.0001 mg/L	UJ LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Chromium	0.001 mg/L	UJ LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Cobalt	0.0005 mg/L	UJ LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Lead	0.0005 mg/L	UJ LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Molybdenum	0.0014 mg/L	J LM
CH-CCR-MW78A-1023	J209609	SM 4500HB	pH	7.2 SU	J HT
CH-CCR-MW78A-1023	J209609	EPA 200.8	Selenium	0.00077 mg/L	J LM
CH-CCR-MW78A-1023	J209609	EPA 200.8	Thallium	0.0001 mg/L	UJ LM
CH-CCR-Petroglyph-1023	J209609	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-TannerWash-1023	J209609	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TWX10-1023	J209609	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-TWX3-1023	J209609	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-TWX5-1023	J209609	SM 4500HB	pH	7.3 SU	J HT
CH-CCR-TWX7-1023	J209609	SM 4500HB	pH	7.5 SU	J HT
CH-CCR-TWX9-1023	J209609	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-FD01-1023	J210926	EPA 300.0	Chloride	1,200 mg/L	J FD
CH-CCR-FD01-1023	J210926	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M54-1023	J210926	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-M59-1023	J210926	EPA 300.0	Chloride	740 mg/L	J FD
CH-CCR-M59-1023	J210926	EPA 300.0	Fluoride	1.3 mg/L	J LM
CH-CCR-M59-1023	J210926	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M60-1023	J210926	SM 4500HB	pH	7.6 SU	J HT
CH-CCR-M61-1023	J210926	SM 4500HB	pH	7.7 SU	J HT
CH-CCR-M44D-1023	J210925	SM 4500HB	pH	7.2 SU	J HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2023 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Method	Analyte	Result	Qualifier and Reason Code
CH-CCR-FD05-1023	J210925	SM 4500HB	pH	7.1 SU	J HT
CH-CCR-W305-1023	J210901	EPA 200.8	Barium	0.012 mg/L	J HD
CH-CCR-W305-1023	J210901	SM 4500HB	pH	7.4 SU	J HT
CH-CCR-TWX6-1023	J210901	SM 4500HB	pH	7.5 SU	J HT

Notes:

mg/L = milligrams per liter

pCi/L = picocurie per liter

SU = standard pH unit

Qualifier Definitions:

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

R = The Result is rejected due to serious deficiencies in meeting QC criteria.

U = The analyte was analyzed for, but was not detected.

Reason Codes:

DL = The detected concentration is less than the reporting limit.

FD = Imprecision between primary and field duplicate Results.

HD = Imprecision between primary and laboratory duplicate Results.

HL = High laboratory control sample recovery. Result may be biased high.

HM = High matrix spike recovery. Result may be biased high.

HT = The method-specified maximum hold time was exceeded.

LM = Low matrix spike recovery. Result may be biased low.

MB = The concentration detected in the sample was less than five times the concentration detected in the associated laboratory blank.

RT = Elevated receipt temperature.

TD = Dissolved concentration is significantly higher than the total concentration.

APPENDIX

A

DATA

ASSESSMENT

CHECKLISTS

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J201150	Review Date:	6/14/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52A-0423	04/19/23 13:07	550-201150-1/2	
CH-CCR-M53A-0423	04/19/23 10:38	550-201150-3/4	
CH-CCR-M55A-0423	04/20/23 15:47	550-201150-5/6	
CH-CCR-MW69A-0423	04/19/23 14:10	550-201150-7/8	
CH-CCR-MW70M-0423	04/19/23 15:20	550-201150-9/10	
CH-CCR-MW71A-0423	04/19/23 17:34	550-201150-11/12	
CH-CCR-MW72M-0423	04/19/23 16:24	550-201150-13/14	
CH-CCR-MW73A-0423	04/20/23 10:11	550-201150-15/16	
CH-CCR-MW74M-0423	04/20/23 11:08	550-201150-17/18	
CH-CCR-W301-0423	04/18/23 17:01	550-201150-19/20	
CH-CCR-W303-0423	04/18/23 18:09	550-201150-21/22	
CH-CCR-W306-0423	04/19/23 11:25	550-201150-23/24	
CH-CCR-W308-0423	04/20/23 17:18	550-201150-25/26	
CH-CCR-W309-0423	04/20/23 14:46	550-201150-27/28	
CH-CCR-W314-0423	04/20/23 12:24	550-201150-29/30	
CH-CCR-M50A-0423	04/17/23 15:20	550-201150-31/32	
CH-CCR-M51A-0423	04/17/23 14:14	550-201150-33/34	
CH-CCR-M64A-0423	04/17/23 12:15	550-201150-35/36	
CH-CCR-W123R-0423	04/17/23 17:47	550-201150-37/38	
CH-CCR-W125-0423	04/17/23 16:44	550-201150-39	
CH-CCR-BudHunt-0423	04/19/23 09:18	550-201150-40/41	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC)	General Chemistry	SM 5310B

Cholla CCR Data Review

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M52A-0423	pH	8 days, 1 hour, 15 minutes	J-HT
CH-CCR-M53A-0423	pH	8 days, 3 hours, 45 minutes	J-HT
CH-CCR-M55A-0423	pH	6 days, 22 hours, 37 minutes	J-HT
CH-CCR-MW69A-0423	pH	8 days, 0 hours, 20 minutes	J-HT
CH-CCR-MW70M-0423	pH	7 days, 23 hours, 12 minutes	J-HT
CH-CCR-MW71A-0423	pH	7 days, 21 hours, 0 minutes	J-HT
CH-CCR-MW72M-0423	pH	7 days, 22 hours, 12 minutes	J-HT
CH-CCR-MW73A-0423	pH	7 days, 4 hours, 27 minutes	J-HT
CH-CCR-MW74M-0423	pH	7 days, 3 hours, 31 minutes	J-HT
CH-CCR-W301-0423	pH	8 days, 20 hours, 33 minutes	J-HT
CH-CCR-W303-0423	pH	8 days, 3 hours, 19 minutes	J-HT
CH-CCR-W306-0423	pH	6 days, 21 hours, 27 minutes	J-HT
CH-CCR-W308-0423	pH	7 days, 0 hours, 2 minutes	J-HT
CH-CCR-W309-0423	pH	7 days, 2 hours, 27 minutes	J-HT
CH-CCR-W314-0423	pH	9 days, 23 hours, 32 minutes	J-HT
CH-CCR-M50A-0423	pH	10 days, 0 hours, 39 minutes	J-HT
CH-CCR-M51A-0423	pH	10 days, 0 hours, 39 minutes	J-HT
CH-CCR-M64A-0423	pH	10 days, 2 hours, 39 minutes	J-HT
CH-CCR-W123R-0423	pH	9 days, 21 hours, 8 minutes	J-HT
CH-CCR-W125-0423	pH	9 days, 22 hours, 12 minutes	J-HT
CH-CCR-BudHunt-0423	pH	8 days, 5 hours, 39 minutes	J-HT

Note:

HT = Holding time exceeded.

Cholla CCR Data Review

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Selenium	0.00104 mg/L	CH-CCR-M51A-0423 CH-CCR-MW72M-0423 CH-CCR-MW73A-0423	J-MB
Barium	0.000261 mg/L	None	None
Antimony	0.000054 mg/L	CH-CCR-M50A-0423 CH-CCR-M53A-0423 CH-CCR-M55A-0423 CH-CCR-MW69A-0423 CH-CCR-MW70M-0423 CH-CCR-MW71A-0423 CH-CCR-MW72M-0423 CH-CCR-MW73A-0423 CH-CCR-MW74M-0423 CH-CCR-W301-0423 CH-CCR-W303-0423 CH-CCR-W306-0423 CH-CCR-W308-0423	J-MB

Note:

MB = The analyte was detected in the sample at a concentration less than five times the concentration detected in the blank, corrected for sample dilution.

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M53A-0423	Antimony, arsenic, barium, cadmium, chromium, cobalt, lead, molybdenum, selenium, thallium
CH-CCR-M55A-0423	Nitrate/nitrite
CH-CCR-M64A-0423	Lithium
CH-CCR-MW52A-0423	Ammonia, beryllium, boron, calcium, iron, lithium, magnesium, manganese, potassium, sodium, DOC

Cholla CCR Data Review

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-MW72M-0423	Chloride
CH-CCR-W303-0423	Ammonia
CH-CCR-W306-0423	Dissolved arsenic, dissolved cobalt
CH-CCR-W308-0423	Nitrate/nitrite

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M52A-0423	Ammonia	87%, MS	90-110%	UJ-LM
CH-CCR-M52A-0423	Potassium	151%, 133%	70-130%	J-HM
CH-CCR-M53A-0423	Selenium	58% MSD, 34% RPD	70-130%, 20% RPD	UJ-LM, None
CH-CCR-W303-0423	Ammonia	88%, MSD	90-110%	UJ-LM
CH-CCR-MW52A-0423	Calcium	9%, 8%	70-130%	NA4
CH-CCR-MW52A-0423	Iron	52%, MSD	70-130%	NA4
CH-CCR-MW52A-0423	Iron, dissolved	5%, -9%	70-130%	NA4
CH-CCR-MW52A-0423	Magnesium	40%, MSD	70-130%	NA4
CH-CCR-MW52A-0423	Sodium	-230%, -407%	70-130%	NA4

Note:

HM = High matrix spike recovery.

LM = Low matrix spike recovery.

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-W303-0423	Alkalinity
CH-CCR-MW74M-0423	Alkalinity
CH-CCR-M55A-0423	TDS
CH-CCR-MW69A-0423	pH
CH-CCR-W309-0423	pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

12. Other Quality Control Issues?

Yes
 No

If yes:

According to the case narrative, beryllium and sodium recoveries were high in the continuing calibration verification (CCV) associated with the analysis of samples CH-CCR-M52A-0423, CH-CCR-M53A-0423, CH-CCR-M55A-0423, CH-CCR-MW69A-0423, CH-CCR-MW70M-0423, CH-CCR-MW71A-0423, CH-CCR-MW73A-0423, CH-CCR-MW74M-0423, CH-CCR-W301-0423, CH-CCR-W303-0423, CH-CCR-W306-0423, CH-CCR-W308-0423, CH-CCR-W309-0423, CH-CCR-W314-0423, CH-CCR-M50A-0423, CH-CCR-M51A-0423, CH-CCR-M64A-0423, CH-CCR-W123R-0423, and CH-CCR-W125-0423. Detected sodium and beryllium results were not reported from the associated analyses and data usability is not adversely affected buy the high CCV recoveries.

Cholla CCR Data Review

14. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-MW72M-0423	Beryllium	0.0050 mg/L
CH-CCR-MW72M-0423	Fluoride	40 mg/L
CH-CCR-M64A-0423	Fluoride	10 mg/L

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J201346	Review Date:	6/16/2023
Validator's Name:	Marie Bevier	Reviewed By:	Bjorn Ottosson

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-W302-0423	4/24/2023 14:54	550-201346-1/2	
CH-CCR-W304-0423	4/24/2023 13:28	550-201346-3/4	
CH-CCR-W307R-0423	4/24/2023 12:16	550-201346-5/6	
CH-CCR-FD03-0423	4/24/2023 16:20	550-201346-7/8	Field duplicate of CH-CCR-W307R
CH-CCR-MW77A-0423	4/25/2023 9:53	550-201346-9/10	
CH-CCR-MW78A-0423	4/24/2023 17:16	550-201346-11/12	
CH-CCR-BAP-0423	4/26/2023 11:38	550-201346-13/14	
CH-CCR-BAPTD-0423	4/26/2023 8:27	550-201346-15/16	
CH-CCR-Petroglyph-0423	4/26/2023 9:00	550-201346-17/18	
CH-CCR-TannerWash-0423	4/26/2023 9:16	550-201346-19/20	
CH-CCR-TWX3-0423	4/26/2023 9:41	550-201346-21/22	
CH-CCR-TWX5-0423	4/26/2023 10:00	550-201346-23/24	
CH-CCR-TWX6-0423	4/26/2023 10:11	550-201346-25/26	
CH-CCR-TWX7-0423	4/26/2023 10:29	550-201346-27/28	
CH-CCR-TWX9-0423	4/26/2023 10:54	550-201346-29/30	
CH-CCR-TWX10-0423	4/26/2023 11:05	550-201346-31/32	
CH-CCR-EB01-0423	4/26/2023 12:46	550-201346-33/34	Equipment blank
CH-CCR-FAP-0423	4/25/2023 13:35	550-201346-35/36	
CH-CCR-GeronimoC-0423	4/25/2023 12:43	550-201346-37/38	
CH-CCR-GeronimoD-0423	4/25/2023 13:04	550-201346-39/40	
CH-CCR-HuntB-0423	4/25/2023 11:13	550-201346-41/42	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B

Cholla CCR Data Review

Analyte	Analyte Group	Method
Total Organic Carbon (TOC), Dissolved Organic Carbon (DOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

According to the case narrative, the containers of samples CH-CCR-BAP-0423, CH-CCR-BAPTD-0423, CH-CCR-Petroglyph-0423, CH-CCR-TannerWash-0423, CH-CCR-TWX3-0423, CH-CCR-TWX5-0423, CH-CCR-TWX6-0423, CH-CCR-TWX7-0423, CH-CCR-TWX9-0423, CH-CCR-TWX10-0423, and CH-CCR-EB01-0423 for nitrate/nitrite analysis were received without proper preservation. Acid was added to the samples within 48 hours of collection and data usability is not adversely affected.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-W302-0423	pH	8 days, 23 hours, 57 minutes	J, HT
CH-CCR-W304-0423	pH	9 days, 1 hour, 25 minutes	J, HT
CH-CCR-W307R-0423	pH	9 days, 2 hours, 39 minutes	J, HT
CH-CCR-FD03-0423	pH	8 days, 22 hours, 36 minutes	J, HT
CH-CCR-MW77A-0423	pH	8 days, 5 hours, 5 minutes	J, HT
CH-CCR-MW78A-0423	pH	8 days, 21 hours, 43 minutes	J, HT
CH-CCR-BAP-0423	pH	7 days, 3 hours, 24 minutes	J, HT
CH-CCR-BAPTD-0423	pH	7 days, 6 hours, 38 minutes	J, HT
CH-CCR-Petroglyph-0423	pH	7 days, 6 hours, 7 minutes	J, HT
CH-CCR-TannerWash-0423	pH	7 days, 5 hours, 52 minutes	J, HT
CH-CCR-TWX3-0423	pH	7 days, 5 hours, 28 minutes	J, HT
CH-CCR-TWX5-0423	pH	7 days, 5 hours, 10 minutes	J, HT
CH-CCR-TWX6-0423	pH	7 days, 5 hours, 1 minute	J, HT
CH-CCR-TWX7-0423	pH	7 days, 4 hours, 45 minutes	J, HT
CH-CCR-TWX9-0423	pH	7 days, 4 hours, 21 minutes	J, HT
CH-CCR-TWX10-0423	pH	7 days, 4 hours, 12 minutes	J, HT
CH-CCR-FAP-0423	pH	8 days, 1 hour, 49 minutes	J, HT
CH-CCR-GeronimoC-0423	pH	8 days, 2 hours, 42 minutes	J, HT
CH-CCR-GeronimoD-0423	pH	8 days, 2 hours, 22 minutes	J, HT
CH-CCR-HuntB-0423	pH	8 days, 4 hours, 15 minutes	J, HT

Note:

HT = Holding time exceeded.

Cholla CCR Data Review

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Boron	According to the case narrative, boron was detected in a continuing calibration blank associated with the analysis of samples CH-CCR-TWX3-0423, CH-CCR-TWX5-0423, CH-CCR-TWX6-0423, CH-CCR-TWX7-0423, CH-CCR-GeronimoC-0423, and CH-CCR-GeronimoD-0423.	none	none
TDS	316 mg/L	none	none
Barium Chromium	0.00068 mg/L 0.00016 mg/L	none	none

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Iron, dissolved	123%, 120%	85-115%	CH-CCR-HuntB-0423	J, HL

Note:

HL = High laboratory control sample recovery. Result may be biased high.

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W304-0423	Dissolved iron and manganese, beryllium, boron, calcium, iron, magnesium, potassium, nitrate/nitrite
CH-CCR-TWX5-0423	Lithium, nitrate/nitrite
CH-CCR-TWX6-0423	Lithium, TOC
CH-CCR-FD03-0423, CH-CCR-MW77A-0423	Dissolved arsenic and cobalt
CH-CCR-Petroglyph-0423, CH-CCR-GeronimoC-0423	Ammonia
CH-CCR-W302-0423, CH-CCR-HuntB-0423	DOC

Cholla CCR Data Review

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes **No** N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-W304-0423	Calcium	40%, -63%	70-130%	NA4
CH-CCR-W304-0423	Calcium Magnesium Sodium	-134%, -146% 67%, MSD -566%, -591%	70-130%	NA4
CH-CCR-W304-0423	Sodium	-731%, -1091%	70-130%	NA4
CH-CCR-Petroglyph-0423	Ammonia	86%, MS	90-110%	J, LM
CH-CCR-TWX6-0423	TOC	88%, MSD	90-110%	J, LM
CH-CCR-W302-0423	DOC	87%, 86%	90-110%	J, LM
CH-CCR-HuntB-0423	DOC	84%, 77%	90-110%	J, LM

Note:

LM = Low matrix spike recovery.

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-W307R-0423	CH-CCR-FD03-0423

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-W307R-0423, CH-CCR-TWX6-0423	Alkalinity
CH-CCR-MW78A-0423, CH-CCR-TannerWash-0423	TDS
CH-CCR-BAP-0423, CH-CCR-EB01-0423	pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability
CH-CCR-HuntB-0423	Iron	0.50 U	0.90	UJ/J, TD

Note:

TD = Dissolved concentration is significantly higher than the total concentration.

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Cholla CCR Data Review

Sample ID	Analyte	Reporting Limit
CH-CCR-BAP-0423 CH-CCR-BAPTD-0423 CH-CCR-FD03-0423 CH-CCR-GeronimoC-0423 CH-CCR-GeronimoD-0423 CH-CCR-HuntB-0423 CH-CCR-MW77A-0423 CH-CCR-MW78A-0423 CH-CCR-Petroglyph-0423 CH-CCR-TannerWash-0423 CH-CCR-TWX3-0423 CH-CCR-TWX5-0423 CH-CCR-TWX6-0423 CH-CCR-TWX7-0423 CH-CCR-TWX9-0423 CH-CCR-TWX10-0423 CH-CCR-W302-0423 CH-CCR-W304-0423 CH-CCR-W307R-0423	Antimony	0.010 mg/L (DL = 0.0051 mg/L)
CH-CCR-FAP-0423 CH-CCR-W302-0423 CH-CCR-W307R-0423	Beryllium	0.010 mg/L
CH-CCR-FAP-0423	Cadmium	0.020 mg/L (DL = 0.0044 mg/L)
CH-CCR-TannerWash-0423 CH-CCR-TWX3-0423 CH-CCR-TWX5-0423 CH-CCR-TWX6-0423 CH-CCR-TWX7-0423 CH-CCR-TWX10-0423	Fluoride	8.0 mg/L
CH-CCR-TWX9-0423	Fluoride	20 mg/L
CH-CCR-GeronimoC-0423	Fluoride	40 mg/L
CH-CCR-FAP-0423	Fluoride	400 mg/L
CH-CCR-FAP-0423	Lead	0.020 mg/L (DL = 0.012 mg/L)
CH-CCR-FAP-0423	Thallium	0.020 mg/L (DL = 0.0081 mg/L)

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J202028	Review Date:	6/14/2023
Validator's Name:	Marie Bevier	Reviewed By:	Bjorn Ottosson

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M60-0523	5/10/23 10:36	550-202028-1	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Boron, Calcium	Metals	EPA 200.7
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M60-0523	pH	7 days, 4 hours, 54 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes
 No
 N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M60-0523	Boron, calcium

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes
 No
 N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes
 No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes
 No
 N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-M60-0523	pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J200839-1,2	Review Date:	6/12/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-0423	04/13/23 08:56	550-200839-1	
CH-CCR-M59-0423	04/12/23 11:08	550-200839-2	
CH-CCR-M61-0423	04/12/23 12:48	550-200839-3	
CH-CCR-FD01-0423	04/12/23 16:20	550-200839-4	Field duplicate of CH-CCR-M59-0423

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Boron, Calcium	Metals	EPA 200.7
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

All samples reviewed in this report were received by the laboratory at a temperature of 9.3°C . WSP J qualified the detected sulfate, pH, and TDS results from all samples reviewed in this report because of the receipt temperature exceedance. (J/UJ-RT)

Note:

RT = Elevated receipt temperature.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M54-0423	pH	7 days, 4 hours, 53 minutes	J-HT
CH-CCR-M59-0423	pH	8 days, 2 hours, 42 minutes	J-HT
CH-CCR-M61-0423	pH	8 days, 1 hour, 4 minutes	J-HT
CH-CCR-FD01-0423	pH	7 days, 21 hours, 33 minutes	J-HT
CH-CCR-M54-0423	TDS (reanalysis)	43 days	J-HT
CH-CCR-M59-0423	TDS (reanalysis)	44 days	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
TDS	46 milligrams per liter	none	none

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M59-0423	Boron, calcium, chloride, fluoride, sulfate

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M59-0423	CH-CCR-FD01-0423

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-M59-0423	CH-CCR-FD01-0423	TDS	106%	J-FD
CH-CCR-M59-0423 (reanalysis)	CH-CCR-FD01-0423	TDS	87%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-M59-0423	pH, TDS

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability
CH-CCR-M59-0423	TDS (25%)	J-HD (CH-CCR-M59-0423 and CH-CCR-FD01-0423)

Note:

HD = Imprecision between primary and laboratory duplicate results.

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J200842	Review Date:	6/6/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-FD02-0423	04/14/23 13:20	550-200842-1/2	Field duplicate of CH-CCR-MW79A-0423
CH-CCR-W305-0423	04/14/23 15:39	550-200842-3/4	
CH-CCR-MW79A-0423	04/14/23 16:43	550-200842-5/6	
CH-CCR-W317-0423	04/14/23 18:11	550-200842-7	
CH-CCR-FD04-0423	04/14/23 12:34	550-200842-8	Field duplicate of CH-CCR-W317-0423

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Samples CH-CCR-FD02-0423, CH-CCR-MW79A-0423, CH-CCR-W317-0423, CH-CCR-FD04-0423 were received by the laboratory at a temperature of 7.3°C , and sample CH-CCR-W305-0423 was received by the laboratory at a temperature of 9.3°C . WSP J qualified the detected and UJ qualified the non-detected sulfate, ammonia, nitrate/nitrite, alkalinity, pH, TDS, and DOC results from all samples reviewed in this report because of the receipt temperature exceedance. (J/UJ-RT)

Note:

RT = Elevated receipt temperature.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-FD02-0423	pH	6 days, 0 hours, 36 minutes	J-HT
CH-CCR-FD04-0423	pH	6 days, 1 hour, 29 minutes	J-HT
CH-CCR-MW79A-0423	pH	5 days, 21 hours, 18 minutes	J-HT
CH-CCR-W305-0423	pH	5 days, 22 hours, 20 minutes	J-HT
CH-CCR-W317-0423	pH	5 days, 19 hours, 51 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Barium	0.000261 mg/L	None	None

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes **No** N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Boron	116%, 116%	85-115%	CH-CCR-FD02-0423, CH-CCR-FD04-0423, CH-CCR-W305-0423, CH-CCR-W317-0423, CH-CCR-MW79A-042	J-HL

Note:

HL = High LCS recovery.

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W317-0423	Fluoride, chloride, sulfate, beryllium, boron, calcium, lithium, antimony, arsenic, barium, cadmium, chromium, cobalt, lead, molybdenum, thallium, selenium, mercury
CH-CCR-FD02-0423	Arsenic, cobalt, DOC

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes **No** N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-W317-0423	Calcium	13%, -2%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

Cholla CCR Data Review

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-MW79A-0423	CH-CCR-FD02-0423
CH-CCR-W317-0423	CH-CCR-FD04-0423

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-M79A-0423	CH-CCR-FD02-0423	Barium	63%	J-FD
CH-CCR-M79A-0423	CH-CCR-FD02-0423	TDS	85%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-MW79A-0423	Alkalinity
CH-CCR-FD02-0423	pH
CH-CCR-FD04-0423	TDS, pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J200849	Review Date:	06/08/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43A-0423	04/15/23 10:30	550-200849-1/2	
CH-CCR-M44D-0423	04/13/23 11:17	550-200849-3	
CH-CCR-M45A-0423	04/15/23 11:33	550-200849-4	
CH-CCR-M46A-0423	04/15/23 13:55	550-200849-5/6	
CH-CCR-M63A-0423	04/15/23 08:57	550-200849-7	
CH-CCR-W126R-0423	04/15/23 17:20	550-200849-8/9	Matrix spike (nitrate/nitrite), Laboratory duplicate (pH)
CH-CCR-M65A-0423	04/15/23 12:46	550-200849-10/11	Laboratory duplicate (TDS)
CH-CCR-M66A-0423	04/15/23 16:11	550-200849-12/13	
CH-CCR-M67A-0423	04/15/23 15:06	550-200849-14/15	
CH-CCR-FD05-0423	04/15/23 16:20	550-200849-16	Field duplicate of CH-CCR-M63A-0423

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC)	General Chemistry	SM 5310B

Cholla CCR Data Review

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Sample CH-CCR-44D-0423 was received by the laboratory at a temperature of 9.3°C . WSP J qualified the detected sulfate, pH, and TDS results from this sample because of the receipt temperature exceedance. (J-RT)

Samples CH-CCR-FD05-0423, CH-CCR-M43A-0423, CH-CCR-M45A-0423, CH-CCR-M63A-0423, and CH-CCR-M65A-0423 were received by the laboratory at a temperature of 6.4°C , which rounds to 6°C . WSP did not qualify data from these samples base on the minor temperature exceedance.

Note:

RT = Elevated receipt temperature.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-FD05-0423	pH	4 days, 22 hours, 4 minutes	J-HT
CH-CCR-M43A-0423	pH	5 days, 3 hours, 35 minutes	J-HT
CH-CCR-M44D-0423	pH	7 days, 2 hours, 49 minutes	J-HT
CH-CCR-M45A-0423	pH	5 days, 2 hours, 34 minutes	J-HT
CH-CCR-M46A-0423	pH	5 days, 0 hours, 13 minutes	J-HT
CH-CCR-M63A-0423	pH	5 days, 5 hours, 12 minutes	J-HT
CH-CCR-M65A-0423	pH	5 days, 1 hour, 28 minutes	J-HT
CH-CCR-M66A-0423	pH	4 days, 22 hours, 9 minutes	J-HT
CH-CCR-M67A-0423	pH	4 days, 23 hours, 17 minutes	J-HT
CH-CCR-W126R-0423	pH	4 days, 20 hours, 52 minutes	J-HT

Note:

HT = Holding time exceeded.

Cholla CCR Data Review

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Lithium	According to the case narrative, there was a detection greater than the reporting limit in a continuing calibration blank.	None according to the case narrative	None
Barium	0.000261 mg/L	None	None

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Boron	116%, 116%	85-115%	CH-CCR-FD05-0423, CH-CCR-M43A-0423, CH-CCR-M44D-0423, CH-CCR-M45A-0423, CH-CCR-M46A-0423, CH-CCR-M63A-0423, CH-CCR-M65A-0423, CH-CCR-M66A-0423, CH-CCR-M67A-0423, CH-CCR-W126R-0423	J-HL

Note:

HL = High LCS recovery.

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W126R-0423	Nitrate/nitrite

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-W126R-0423	Nitrate/nitrite	0.2% MSD, 191% RPD	70-130%, 10% RPD	R-LM

Note:

LM = Low matrix spike recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M63A-0423	CH-CCR-FD05-0423

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-MW63A-0423	CH-CCR-FD05-0423	TDS	53%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-M65A-0423	TDS
CH-CCR-W126R-0423	pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-M43A-0423	Antimony	0.010 mg/L (Detection limit = 0.00043 mg/L)
CH-CCR-M44D-0423		
CH-CCR-M45A-0423		
CH-CCR-M46A-0423		
CH-CCR-M63A-0423		
CH-CCR-W126R-0423		
CH-CCR-M65A-0423		
CH-CCR-M66A-0423		
CH-CCR-M67A-0423		
CH-CCR-FD05-0423		

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	71517-71526	Review Date:	5/9/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43A-0423	4/15/2023 10:30	71517	
CH-CCR-M44D-0423	4/13/2023 11:17	71518	
CH-CCR-M45A-0423	4/15/2023 11:33	71519	
CH-CCR-M46A-0423	4/15/2023 13:56	71520	
CH-CCR-M63A-0423	4/15/2023 8:57	71521	
CH-CCR-FD05-0423	4/15/2023 16:20	71522	Field duplicate of CH-CCR-M63A-0423
CH-CCR-M65A-0423	4/15/2023 12:46	71523	
CH-CCR-M66A-0423	4/15/2023 16:11	71524	
CH-CCR-M67A-0423	4/15/2023 15:06	71525	
CH-CCR-W126R-0423	4/15/2023 17:20	71526	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	71527-71531	Review Date:	5/9/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M79A-0423	4/14/2023 16:43	71527	
CH-CCR-FD02-0423	4/14/2023 13:20	71528	Field duplicate of CH-CCR-MW79A-0423
CH-CCR-W305-0423	4/14/2023 15:39	71529	
CH-CCR-W317-0423	4/14/2023 18:11	71530	
CH-CCR-FD04-0423	4/14/2023 12:34	71531	Field duplicate of CH-CCR-W317-0423

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-W317-0423	Radium 226, Radium 228, Total Radium

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	71593-71607	Review Date:	5/16/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52A-0423	4/19/2023 13:07	71593	
CH-CCR-M53A-0423	4/19/2023 10:38	71594	
CH-CCR-M55A-0423	4/20/2023 15:47	71595	
CH-CCR-MW69A-0423	4/19/2023 14:10	71596	
CH-CCR-MW70M-0423	4/19/2023 15:20	71597	
CH-CCR-MW71A-0423	4/19/2023 17:34	71598	
CH-CCR-MW72M-0423	4/19/2023 16:24	71599	
CH-CCR-MW73A-0423	4/20/2023 10:11	71600	
CH-CCR-MW74M-0423	4/20/2023 11:08	71601	
CH-CCR-W301-0423	4/18/2023 17:01	71602	
CH-CCR-W303-0423	4/18/2023 18:09	71603	
CH-CCR-W306-0423	4/19/2023 11:25	71604	
CH-CCR-W308-0423	4/20/2023 17:18	71605	
CH-CCR-W309-0423	4/20/2023 14:46	71606	
CH-CCR-W314-0423	4/20/2023 12:24	71607	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	71608-71612	Review Date:	Marie Bevier
Validator's Name:	Caitlin Riechmann	Reviewed By:	5/16/23

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M50A-0423	4/17/2023 15:20	71608	
CH-CCR-M51A-0423	4/17/2023 14:14	71609	
CH-CCR-M64A-0423	4/17/2023 12:15	71610	
CH-CCR-W123R-0423	4/17/2023 17:47	71611	
CH-CCR-BudHunt-0423	4/19/2023 9:18	71612	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample CH-CCR-W125-0423 was listed on the COC but was not received by the laboratory and sample CH-CCR-BudHunt-0423 was received but not listed on the COC. Per WSP's instruction, the laboratory cancelled analysis of sample CH-CCR-W123-0423 and added analysis of sample CH-CCR-BudHunt-0423.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	71645-71654	Review Date:	5/22/23
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-MW77A-0423	4/25/23 9:53	71645	
CH-CCR-MW78A-0423	4/24/23 17:16	71646	
CH-CCR-W125-0423	4/25/23 12:17	71647	
CH-CCR-W307R-0423	4/24/23 12:16	71648	
CH-CCR-FD03-0423	4/24/23 16:20	71649	Field duplicate of CH-CCR-W307R-0423
CH-CCR-W304-0423	4/24/23 13:28	71650	
CH-CCR-W302-0423	4/24/23 14:54	71651	
CH-CCR-FAP-0423	4/25/23 13:35	71652	
CH-CCR-HuntB-0423	4/25/23 11:13	71653	
CH-CCR-EB01-0423	4/26/23 12:46	71654	Equipment blank

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

If no, provide details.

Yes No

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

If no, provide details.

Yes No N/A

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-W307R-0423	CH-CCR-FD03-0423

b. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes

No

N/A

Cholla CCR Data Review

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	S.U.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209471	Review Date:	11/14/2023 rev. 11/21/23
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43A-1023	10/16/2023 16:23	550-209471-1/2	
CH-CCR-M45A-1023	10/17/2023 13:38	550-209471-3	
CH-CCR-M46A-1023	10/16/2023 13:22	550-209471-4/5	
CH-CCR-M50A-1023	10/17/2023 10:21	550-209471-6/7	
CH-CCR-M51A-1023	10/17/2023 9:37	550-209471-8/9	
CH-CCR-M65A-1023	10/16/2023 11:19	550-209471-10/11	
CH-CCR-M66A-1023	10/16/2023 10:15	550-209471-12/13	
CH-CCR-M67A-1023	10/16/2023 15:15	550-209471-14/15	
CH-CCR-W125-1023	10/17/2023 11:16	550-209471-16	
CH-CCR-W126R-1023	10/16/2023 9:29	550-209471-17/18	
CH-CCR-BudHunt-1023	10/17/2023 8:40	550-209471-19/20	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B
Fluoride	Anions	EPA 9056A

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Cholla CCR Data Review

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

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

The sample ID for sample CH-CCR-M45A-1023 was incorrectly logged by the laboratory as CH-CCR-M452-1023. For the remainder of this report, WSP refers to this sample as CH-CCR-M45A-1023.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Other sample receipt issues?

Yes No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M43A-1023	pH	9 days, 16 hours, 51 minutes	J-HT
CH-CCR-M45A-1023	pH	8 days, 19 hours, 38 minutes	J-HT
CH-CCR-M46A-1023	pH	9 days, 19 hours, 56 minutes	J-HT
CH-CCR-M50A-1023	pH	8 days, 22 hours, 58 minutes	J-HT
CH-CCR-M51A-1023	pH	8 days, 23 hours, 43 minutes	J-HT
CH-CCR-M65A-1023	pH	9 days, 22 hours, 2 minutes	J-HT
CH-CCR-M66A-1023	pH	9 days, 23 hours, 7 minutes	J-HT
CH-CCR-M67A-1023	pH	9 days, 18 hours, 8 minutes	J-HT
CH-CCR-W125-1023	pH	8 days, 22 hours, 9 minutes	J-HT
CH-CCR-W126R-1023	pH	9 days, 23 hours, 57 minutes	J-HT
CH-CCR-BudHunt-1023	pH	9 days, 0 hours, 47 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes

No

N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Barium	125%, 119%	85-115%	CH-CCR-M43A-1023, CH-CCR-M45A-1023, CH-CCR-M46A-1023, CH-CCR-M50A-1023, CH-CCR-M51A-1023, CH-CCR-M65A-1023, CH-CCR-M66A-1023, CH-CCR-M67A-1023, CH-CCR-W125-1023, CH-CCR-W-126R-1023, CH-CCR-BudHunt-1023	J-HL

Note:

HL = High laboratory control sample recovery. Result may be biased high.

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M43A-1023	Ammonia, Beryllium, Boron, Calcium, Iron, Magnesium, Manganese, Nitrate/nitrite, Potassium, Sodium
CH-CCR-M45A-1023	Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium
CH-CCR-M46A-1023	Chloride, Fluoride, Sulfate
CH-CCR-M51A-1023	Lithium
CH-CCR-M66A-1023	DOC
CH-CCR-W-126R-1023	Mercury

Cholla CCR Data Review

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M43A-1023	Calcium	-7%, 65%	70-130%	NA4
CH-CCR-M43A-1023	Magnesium	61%, MS	70-130%	NA4
CH-CCR-M43A-1023	Sodium	-219%, -65%	70-130%	NA4
CH-CCR-M46A-1023	Chloride	9%, -5%	80-120%	NA4
CH-CCR-M46A-1023	Sulfate	29%, 11%	80-120%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-M46A-1023	Chloride, Fluoride, Sulfate, TDS
CH-CCR-M45A-1023	pH

Cholla CCR Data Review

- a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209476	Review Date:	11/20/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M53A-1023	10/19/23 11:48	550-209476-1/2	
CH-CCR-MW69A-1023	10/19/23 09:11	550-209476-3/4	
CH-CCR-MW70M-1023	10/18/23 15:43	550-209476-5/6	
CH-CCR-MW71A-1023	10/18/23 13:12	550-209476-7/8	
CH-CCR-MW72M-1023	10/18/23 14:02	550-209476-9/10	
CH-CCR-MW73A-1023	10/18/23 11:00	550-209476-11/12	
CH-CCR-MW74M-1023	10/18/23 10:00	550-209476-13/14	
CH-CCR-MW77A-1023	10/17/23 14:54	550-209476-15/16	
CH-CCR-W301-1023	10/19/23 15:52	550-209476-17/18	
CH-CCR-W303-1023	10/19/23 13:35	550-209476-19/20	
CH-CCR-W306-1023	10/19/23 10:30	550-209476-21/22	
CH-CCR-W314-1023	10/19/23 08:45	550-209476-23/24	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Cholla CCR Data Review

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

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Other sample receipt issues?

Yes No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M53A-1023	pH	6 days, 20 hours, 58 minutes	J-HT
CH-CCR-MW69A-1023	pH	6 days, 23 hours, 37 minutes	J-HT
CH-CCR-MW70M-1023	pH	7 days, 17 hours, 7 minutes	J-HT
CH-CCR-MW71A-1023	pH	7 days, 19 hours, 39 minutes	J-HT
CH-CCR-MW72M-1023	pH	7 days, 18 hours, 51 minutes	J-HT
CH-CCR-MW73A-1023	pH	7 days, 21 hours, 55 minutes	J-HT
CH-CCR-MW74M-1023	pH	7 days, 22 hours, 56 minutes	J-HT
CH-CCR-MW77A-1023	pH	8 days, 18 hours, 3 minutes	J-HT
CH-CCR-W301-1023	pH	6 days, 17 hours, 7 minutes	J-HT
CH-CCR-W303-1023	pH	6 days, 19 hours, 25 minutes	J-HT
CH-CCR-W306-1023	pH	6 days, 22 hours, 33 minutes	J-HT
CH-CCR-W314-1023	pH	7 days, 0 hours, 20 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Barium	116%, 116%	85-115%	CH-CCR-M53A-1023, CH-CCR-MW69A-1023, CH-CCR-MW70M-1023, CH-CCR-MW71A-1023, CH-CCR-MW72M-1023, CH-CCR-MW73A-1023, CH-CCR-MW74M-1023, CH-CCR-MW77A-1023, CH-CCR-W301-1023, CH-CCR-W303-1023	J-HL
Barium	116%, 117%	85-115%	CH-CCR-W306-1023, CH-CCR-W314-1023	J-HL
Iron	82%, 82%	85-115%	CH-CCR-M53A-1023 CH-CCR-MW69A-1023 CH-CCR-MW70M-1023 CH-CCR-MW71A-1023 CH-CCR-MW72M-1023 CH-CCR-MW73A-1023 CH-CCR-MW74M-1023 CH-CCR-MW77A-1023 CH-CCR-W301-1023 CH-CCR-W303-1023	J/UJ-LL

Notes:

HL = High laboratory control sample recovery. Result may be biased high.

LL = Low laboratory control sample recovery. Result may be biased low.

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M53A-1023	Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Nitrate/Nitrite, Potassium
CH-CCR-MW69A-1023	Ammonia, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium
CH-CCR-MW72M-1023	DOC
CH-CCR-MW74M-1023	Mercury
CH-CCR-MW77A-1023	Fluoride, Nitrate/Nitrite
CH-CCR-W303-1023	Lithium

Cholla CCR Data Review

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W314-1023	Ammonia

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M53A-1023	Calcium	-20%, 34%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

Cholla CCR Data Review

If Yes:

Sample ID	Analysis
CH-CCR-MW69A-1023	Alkalinity
CH-CCR-W306-1023	TDS, pH
CH-CCR-M53A-1023	pH

- a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-MW72M-1023	Beryllium	0.010 mg/L
CH-CCR-MW72M-1023	Fluoride	80 mg/L

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209476	Review Date:	11/20/2023 rev. 11/21/23
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M53A-1023	10/19/23 11:48	550-209476-1/2	
CH-CCR-MW69A-1023	10/19/23 09:11	550-209476-3/4	
CH-CCR-MW70M-1023	10/18/23 15:43	550-209476-5/6	
CH-CCR-MW71A-1023	10/18/23 13:12	550-209476-7/8	
CH-CCR-MW72M-1023	10/18/23 14:02	550-209476-9/10	
CH-CCR-MW73A-1023	10/18/23 11:00	550-209476-11/12	
CH-CCR-MW74M-1023	10/18/23 10:00	550-209476-13/14	
CH-CCR-MW77A-1023	10/17/23 14:54	550-209476-15/16	
CH-CCR-W301-1023	10/19/23 15:52	550-209476-17/18	
CH-CCR-W303-1023	10/19/23 13:35	550-209476-19/20	
CH-CCR-W306-1023	10/19/23 10:30	550-209476-21/22	
CH-CCR-W314-1023	10/19/23 08:45	550-209476-23/24	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B
Fluoride	Anions	EPA 9056A

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Cholla CCR Data Review

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

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Other sample receipt issues?

Yes No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M53A-1023	pH	6 days, 20 hours, 58 minutes	J-HT
CH-CCR-MW69A-1023	pH	6 days, 23 hours, 37 minutes	J-HT
CH-CCR-MW70M-1023	pH	7 days, 17 hours, 7 minutes	J-HT
CH-CCR-MW71A-1023	pH	7 days, 19 hours, 39 minutes	J-HT
CH-CCR-MW72M-1023	pH	7 days, 18 hours, 51 minutes	J-HT
CH-CCR-MW73A-1023	pH	7 days, 21 hours, 55 minutes	J-HT
CH-CCR-MW74M-1023	pH	7 days, 22 hours, 56 minutes	J-HT
CH-CCR-MW77A-1023	pH	8 days, 18 hours, 3 minutes	J-HT
CH-CCR-W301-1023	pH	6 days, 17 hours, 7 minutes	J-HT
CH-CCR-W303-1023	pH	6 days, 19 hours, 25 minutes	J-HT
CH-CCR-W306-1023	pH	6 days, 22 hours, 33 minutes	J-HT
CH-CCR-W314-1023	pH	7 days, 0 hours, 20 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes

No

N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Barium	116%, 116%	85-115%	CH-CCR-M53A-1023, CH-CCR-MW69A-1023, CH-CCR-MW70M-1023, CH-CCR-MW71A-1023, CH-CCR-MW72M-1023, CH-CCR-MW73A-1023, CH-CCR-MW74M-1023, CH-CCR-MW77A-1023, CH-CCR-W301-1023, CH-CCR-W303-1023	J-HL
Barium	116%, 117%	85-115%	CH-CCR-W306-1023, CH-CCR-W314-1023	J-HL
Iron	82%, 82%	85-115%	CH-CCR-M53A-1023 CH-CCR-MW69A-1023 CH-CCR-MW70M-1023 CH-CCR-MW71A-1023 CH-CCR-MW72M-1023 CH-CCR-MW73A-1023 CH-CCR-MW74M-1023 CH-CCR-MW77A-1023 CH-CCR-W301-1023 CH-CCR-W303-1023	J/UJ-LL

Notes:

HL = High laboratory control sample recovery. Result may be biased high.

LL = Low laboratory control sample recovery. Result may be biased low.

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M53A-1023	Beryllium, Boron, Calcium, Lithium, Iron, Magnesium, Manganese, Nitrate/Nitrite, Potassium
CH-CCR-MW69A-1023	Ammonia, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium
CH-CCR-MW72M-1023	DOC
CH-CCR-MW74M-1023	Mercury
CH-CCR-MW77A-1023	Fluoride, Nitrate/Nitrite
CH-CCR-W303-1023	Lithium

Cholla CCR Data Review

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W314-1023	Ammonia

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M53A-1023	Calcium	-20%, 34%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

Cholla CCR Data Review

If Yes:

Sample ID	Analysis
CH-CCR-MW69A-1023	Alkalinity
CH-CCR-W306-1023	TDS, pH
CH-CCR-M53A-1023	pH

- a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-MW72M-1023	Beryllium	0.010 mg/L
CH-CCR-MW72M-1023	Fluoride (by EPA 9056A)	80 mg/L

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209609	Review Date:	11/30/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-MW78A-1023	10/23/23 13:00	550-209609-1/2	
CH-CCR-BAPTD-1023	10/24/23 08:42	550-209609-3/4	
CH-CCR-Petroglyph-1023	10/24/23 09:09	550-209609-5/6	
CH-CCR-TannerWash-1023	10/24/23 09:28	550-209609-7/8	
CH-CCR-TWX3-1023	10/24/23 10:07	550-209609-9/10	
CH-CCR-TWX5-1023	10/24/23 10:25	550-209609-11/12	
CH-CCR-TWX7-1023	10/24/23 10:41	550-209609-13/14	
CH-CCR-TWX9-1023	10/24/23 15:41	550-209609-15/16	
CH-CCR-TWX10-1023	10/24/23 15:59	550-209609-17/18	
CH-CCR-EB01-1023	10/25/23 08:15	550-209609-19/20	Equipment Blank

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Fluoride	Anions	EPA 9056A
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

Cholla CCR Data Review

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?
If no, provide details.

Yes No

Sample receipt temperature $\leq 6^{\circ}\text{C}$?
If no, provide details.

Yes No N/A

Other sample receipt issues?
If yes, provide details.

Yes No

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-MW78A-1023	pH	5 days, 23 hours, 54 minutes	J-HT
CH-CCR-BAPTD-1023	pH	5 days, 4 hours, 14 minutes	J-HT
CH-CCR-Petroglyph-1023	pH	5 days, 3 hours, 48 minutes	J-HT
CH-CCR-TannerWash-1023	pH	5 days, 3 hours, 30 minutes	J-HT
CH-CCR-TWX3-1023	pH	5 days, 2 hours, 52 minutes	J-HT
CH-CCR-TWX5-1023	pH	5 days, 2 hours, 35 minutes	J-HT
CH-CCR-TWX7-1023	pH	5 days, 2 hours, 20 minutes	J-HT
CH-CCR-TWX9-1023	pH	4 days, 21 hours, 21 minutes	J-HT
CH-CCR-TWX10-1023	pH	4 days, 21 hours, 4 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Arsenic, total	0.0029 mg/L	None	NA
Arsenic, dissolved	3.2 ug/L	None	NA
Sodium	0.696 mg/L	None	NA

Notes:

Cholla CCR Data Review

NA = not applicable

7. LCS recoveries within laboratory-specified limits?

Yes
 No
 N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes
 No
 N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-BAPTD-1023	Beryllium, Boron, Calcium, Iron, Magnesium, Manganese, Potassium, Sodium
CH-CCR-TWX9-1023	Lithium
CH-CCR-MW78A-1023	Ammonia, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium
CH-CCR-TWX10-1023	Nitrate/Nitrite

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes
 No
 N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-MW78A-1023	Antimony	18%, 19%	70-130%	UJ-LM
CH-CCR-MW78A-1023	Arsenic	18%, 19%	70-130%	J-LM
CH-CCR-MW78A-1023	Barium	19%, 20%	70-130%	J-LM
CH-CCR-MW78A-1023	Cadmium	18%, 18%	70-130%	UJ-LM
CH-CCR-MW78A-1023	Chromium	17%, 18%	70-130%	UJ-LM
CH-CCR-MW78A-1023	Cobalt	17%, 18%	70-130%	UJ-LM
CH-CCR-MW78A-1023	Lead	18%, 19%	70-130%	UJ-LM
CH-CCR-MW78A-1023	Molybdenum	19%, 20%	70-130%	J-LM
CH-CCR-MW78A-1023	Selenium	17%, 17%	70-130%	J-LM
CH-CCR-MW78A-1023	Thallium	17%, 18%	70-130%	UJ-LM
CH-CCR-BAPTD-1023	Calcium	-97%, -83%	70-130%	NA4
CH-CCR-BAPTD-1023	Magnesium	29%, 34%	70-130%	NA4
CH-CCR-BAPTD-1023	Sodium	-450%, -410%	70-130%	NA4

Note:

LM = Low matrix spike recovery.

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

Cholla CCR Data Review

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis
CH-CCR-MW78A-1023	Alkalinity, pH, TDS

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes

No

N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes

No

N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209610	Review Date:	11/22/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-GeronimoC-1023	10/23/23 16:30	550-209610-1/2	
CH-CCR-GeronimoD-1023	10/23/23 16:11	550-209610-3/4	
CH-CCR-GSX1R-1023	10/23/23 17:13	550-209610-5/6	
CH-CCR-EW01-1023	10/23/23 15:15	550-209610-7/8	
CH-CCR-EW02-1023	10/23/23 15:45	550-209610-9/10	
CH-CCR-EW03-1023	10/23/23 16:45	550-209610-11/12	
CH-CCR-EW04-1023	10/23/23 17:32	550-209610-13/14	
CH-CCR-HuntB-1023	10/23/23 14:20	550-209610-15/16	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

According to the laboratory, one of the four vials for DOC analysis listed a sample ID of CH-CCR-EW02-1023, but the collection date and time matched the collection date and time listed for sample CH-CCR-EW04-1023. The vial was not used for analysis.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-GeronimoC-1023	pH	8 days, 21 hours, 19 minutes	J-HT
CH-CCR-GeronimoD-1023	pH	8 days, 21 hours, 41 minutes	J-HT
CH-CCR-GSX1R-1023	pH	8 days, 20 hours, 40 minutes	J-HT
CH-CCR-EW01-1023	pH	8 days, 22 hours, 39 minutes	J-HT
CH-CCR-EW02-1023	pH	8 days, 22 hours, 10 minutes	J-HT
CH-CCR-EW03-1023	pH	8 days, 21 hours, 12 minutes	J-HT
CH-CCR-EW04-1023	pH	8 days, 20 hours, 26 minutes	J-HT
CH-CCR-HuntB-1023	pH	8 days, 23 hours, 39 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-GeronimoD-1023	Beryllium, Boron, Calcium, Iron, Magnesium, Manganese, Potassium
CH-CCR-GeronimoC-1023	Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium
CH-CCR-EW03-1023	Nitrate/Nitrite
CH-CCR-GSX1R-1023	DOC

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-GeronimoC-1023	Selenium	67%, 65%	70-130%	UJ-LM
CH-CCR-GeronimoD-1023	Boron	-302%, -270%	70-130%	NA4
CH-CCR-GeronimoD-1023	Calcium	-171%, -72%	70-130%	NA4
CH-CCR-GeronimoD-1023	Magnesium	-107%, -32%	70-130%	NA4
CH-CCR-GeronimoD-1023	Sodium	-1,006%, -469%	70-130%	NA4

Note:

LM = Low matrix spike recovery. Result may be biased low.

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

Cholla CCR Data Review

- a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-GeronimoC-1023	Alkalinity, pH

- a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability
CH-CCR-EW01-1023	Iron	14	67	J-TD
CH-CCR-EW01-1023	Manganese	3.0	9.7	J-TD
CH-CCR-EW02-1023	Iron	2.4	3.2	J-TD
CH-CCR-EW02-1023	Manganese	8.5	11	J-TD

Note:

TD = Dissolved concentration is significantly higher than the total concentration.

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-GeronimoC-1023	Antimony	0.010 mg/L

Cholla CCR Data Review

Laboratory Names:	Eurofins Environment Testing, Legend Technical Services of Arizona, Inc.		
Sample Delivery Groups:	Eurofins J210901, Legend 23L1173	Review Date:	1/2/2024
Validator's Name:	Caitlin Riechmann	Reviewed By:	Zachary Carroll

Sample Summary:

Field Sample Identification	Collection Date and Time	Eurofins Laboratory Sample Identification	Legend Laboratory Sample Identification	Notes
CH-CCR-W305-1023	11/21/23 11:20	550-210901-1/2	23L1173-01	
CH-CCR-TWX6-1023	11/21/23 13:23	550-210901-3/4	23L1173-02/03	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Other sample receipt issues?

Yes No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-W305-1023	pH	8 days, 1 hour, 56 minutes	J-HT
CH-CCR-TWX6-1023	pH	7 days, 23 hours, 55 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W305-1023	Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-W305-1023	Barium	22% RPD	20%	J-HD

Note:

HD = Imprecision between MS and MSD results.

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-W305-1023	pH

Cholla CCR Data Review

- a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J210925	Review Date:	12/21/2023
Validator's Name:	Marie Bevier	Reviewed By:	Zachary Carroll

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M44D-1023	11/21/23 08:46	550-210925-1	
CH-CCR-FD05-1023	11/21/23 16:20	550-210925-2	Field duplicate of CH-CCR-M44D

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M44D-1023	pH	8 days, 4 hours, 39 minutes	J-HT
CH-CCR-FD05-1023	pH	7 days, 21 hours, 6 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-FD05-1023	Mercury

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M44D-1023	CH-CCR-FD05-1023

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-M44D-1023	Lithium	0.050 mg/L
CH-CCR-FD05-1023	Lithium	0.050 mg/L

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J210926	Review Date:	12/18/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-1023	11/21/23 10:29	550-210926-1	
CH-CCR-M59-1023	11/21/23 12:29	550-210926-2	
CH-CCR-M60-1023	11/20/23 17:48	550-210926-3	
CH-CCR-M61-1023	11/20/23 16:51	550-210926-4	
CH-CCR-FD01-1023	11/21/23 13:31	550-210926-5	Field Duplicate of CH-CCR-M59-1023

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Boron, Calcium	Metals	EPA 200.7
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M54-1023	pH	9 days, 4 hours, 3 minutes	J-HT
CH-CCR-M59-1023	pH	9 days, 2 hours, 4 minutes	J-HT
CH-CCR-M60-1023	pH	9 days, 20 hours, 46 minutes	J-HT
CH-CCR-M61-1023	pH	9 days, 21 hours, 44 minutes	J-HT
CH-CCR-FD01-1023	pH	9 days, 1 hour, 5 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

Cholla CCR Data Review

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M59-1023	Boron, Calcium, Chloride, Fluoride, Sulfate

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M59-1023	Fluoride	-0.4%, -0.4%	80-120%	J-LM
CH-CCR-M59-1023	Chloride	-6%, -13%	80-120%	NA4
CH-CCR-M59-1023	Sulfate	-4%, -9%	80-120%	NA4

Note:

LM = Low matrix spike recovery. Result may be biased low.

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

Cholla CCR Data Review

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M59-1023	CH-CCR-FD01-1023

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-M59-1023	CH-CCR-FD01-1023	Chloride	47%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes No N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209145	Review Date:	Marie Bevier
Validator's Name:	Caitlin Riechmann	Reviewed By:	11/7/2023

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-FD06-1023	10/11/23 13:31	550-209145-1	Field Duplicate of CH-CCR-M63A-1023
CH-CCR-M63A-1023	10/11/23 12:33	550-209145-2	
CH-CCR-M64A-1023	10/11/23 15:15	550-209145-3/4	
CH-CCR-W123R-1023	10/11/23 13:52	550-209145-5/6	
CH-CCR-FAP-1023	10/13/23 08:55	550-209145-7/8	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

Cholla CCR Data Review

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Other sample receipt issues?

Yes

No

If yes, provide details.

Sample login matched COC, however, the sample ID for CH-CCR-M64A-1023 was incorrectly written on the login and COC as CH-CCT-M64A-1023. For the remainder of this report, WSP refers to this sample as CH-CCR-M64A-1023.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-FD06-1023	pH	7 days, 1 hour, 36 minutes	J-HT
CH-CCR-M63A-1023	pH	7 days, 1 hour, 36 minutes	J-HT
CH-CCT-M64A-1023	pH	6 days, 22 hours, 47 minutes	J-HT
CH-CCR-W123R-1023	pH	7 days, 0 hours, 11 minutes	J-HT
CH-CCR-FAP-1023	pH	5 days, 5 hours, 9 minutes	J-HT

Note:

HT = Holding time exceeded.

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

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8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M63A-1023	Fluoride, Beryllium, Boron, Calcium, Lithium, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Mercury
CH-CCR-M64A-1023	DOC

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCT-M64A-1023	DOC	113%, MSD	90-110%	J-HM

Note:

HM = high matrix spike recovery. Result may be biased high.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M63A-1023	CH-CCR-FD06-1023

a. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-M63A-1023	TDS, pH
CH-CCR-M64A-1023	Alkalinity

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-FD06-1023	Antimony	0.010 mg/L
CH-CCR-M63A-1023	Antimony	0.010 mg/L
CH-CCR-M64A-1023	Antimony	0.010 mg/L
CH-CCR-W123R-1023	Antimony	0.010 mg/L
CH-CCR-FAP-1023	Antimony	0.020 mg/L
CH-CCR-FAP-1023	Cobalt	0.010 mg/L

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing		
Sample Delivery Group:	J209146	Review Date:	11/7/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52A-1023	10/11/2023 16:22	550-209146-1/2	
CH-CCR-M55A-1023	10/12/2023 10:28	550-209146-3/4	
CH-CCR-MW79A-1023	10/13/2023 11:03	550-209146-5/6	
CH-CCR-FD02-1023	10/13/2023 15:37	550-209146-7/8	Field Duplicate of CH-CCR-MW79A-1023
CH-CCR-W302-1023	10/12/2023 16:07	550-209146-9/10	
CH-CCR-W304-1023	10/12/2023 14:27	550-209146-11/12	
CH-CCR-W307R-1023	10/12/2023 13:09	550-209146-13/14	
CH-CCR-W308-1023	10/12/2023 11:32	550-209146-15/16	
CH-CCR-W309-1023	10/12/2023 9:23	550-209146-17/18	
CH-CCR-W317-1023	10/11/2023 10:16	550-209146-19	
CH-CCR-FD03-1023	10/12/2023 16:20	550-209146-20/21	Field Duplicate of CH-CCR-W307R-1023
CH-CCR-FD04-1023	10/11/2023 16:10	550-209146-22	Field Duplicate of CH-CCR-W317-1023
CH-CCR-BAP-1023	10/13/2023 9:55	550-209146-23/24	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Nitrate/Nitrite	Anions	EPA 353.2
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids (TDS)	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500H+B
Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC)	General Chemistry	SM 5310B

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Cholla CCR Data Review

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

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete?

Yes No

If No, provide details.

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Other sample receipt issues?

Yes No

If yes, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids (TDS) within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M52A-1023	pH	6 days, 21 hours, 44 minutes	J-HT
CH-CCR-M55A-1023	pH	6 days, 3 hours, 39 minutes	J-HT
CH-CCR-MW79A-1023	pH	5 days, 3 hours, 9 minutes	J-HT
CH-CCR-FD02-1023	pH	4 days, 22 hours, 36 minutes	J-HT
CH-CCR-W302-1023	pH	5 days, 22 hours, 7 minutes	J-HT
CH-CCR-W304-1023	pH	5 days, 23 hours, 49 minutes	J-HT
CH-CCR-W307R-1023	pH	6 days, 1 hour, 8 minutes	J-HT
CH-CCR-W308-1023	pH	6 days, 2 hours, 46 minutes	J-HT
CH-CCR-W309-1023	pH	6 days, 4 hours, 56 minutes	J-HT
CH-CCR-W317-1023	pH	7 days, 4 hours, 8 minutes	J-HT
CH-CCR-FD03-1023	pH	5 days, 22 hours, 0 minutes	J-HT
CH-CCR-FD04-1023	pH	6 days, 22 hours, 11 minutes	J-HT
CH-CCR-BAP-1023	pH	5 days, 4 hours, 32 minutes	J-HT

Note:

HT = Holding time exceeded.

Cholla CCR Data Review

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Beryllium	0.00176 mg/L	None	None

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample?

Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-W317-1023	Fluoride, Beryllium, Boron, Calcium, Lithium, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Mercury
CH-CCR-W309-1023	Mercury
CH-CCR-M52A-1023	Ammonia

a. Are MS recoveries and/or precision within laboratory-specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-W317-1023	Calcium	47%, 39%	70-130%	NA4

Note:

NA4 = The concentration detected in the unspiked native sample is more than four times the spike concentration and it is not possible to assess data usability based on the MS recovery.

Cholla CCR Data Review

9. Field duplicate collected?

Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-MW79A-1023	CH-CCR-FD02-1023
CH-CCR-W307R-1023	CH-CCR-FD03-1023
CH-CCR-W317-1023	CH-CCR-FD04-1023

a. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-W317-1023	CH-CCR-FD04-1023	Chloride	181%	J-FD
CH-CCR-W317-1023	CH-CCR-FD04-1023	Sulfate	181%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

Cholla CCR Data Review

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes
 No
 N/A

If Yes:

Sample ID	Analysis
CH-CCR-MW79A-1023	Alkalinity
CH-CCR-W317-1023	TDS, pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are total concentrations greater than dissolved concentrations or do total and dissolved results meet criteria for duplicate analyses?

Yes
 No
 N/A

If No:

Sample ID	Analyte	Total Concentration (mg/L)	Dissolved Concentration (mg/L)	Effect on Data Usability

Cholla CCR Data Review

12. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes
 No
 N/A

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit
CH-CCR-M52A-1023	Antimony	0.010 mg/L
CH-CCR-W304-1023	Antimony	0.010 mg/L
CH-CCR-M55A-1023	Antimony	0.010 mg/L
CH-CCR-MW79A-1023	Antimony	0.010 mg/L
CH-CCR-FD02-1023	Antimony	0.010 mg/L
CH-CCR-W302-1023	Antimony	0.010 mg/L

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	72979-72990	Review Date:	11/14/23
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M53A-1023	10/19/2023 11:48	72979	
CH-CCR-MW69A-1023	10/19/2023 9:11	72980	
CH-CCR-MW70M-1023	10/18/2023 15:43	72981	
CH-CCR-MW71A-1023	10/18/2023 13:12	72982	
CH-CCR-MW72M-1023	10/18/2023 14:02	72983	
CH-CCR-MW73A-1023	10/18/2023 11:00	72984	
CH-CCR-MW74M-1023	10/18/2023 10:00	72985	
CH-CCR-MW77A-1023	10/17/2023 14:54	72986	
CH-CCR-W301-1023	10/19/2023 15:52	72987	
CH-CCR-W303-1023	10/19/2023 13:35	72988	
CH-CCR-W306-1023	10/19/2023 10:30	72989	
CH-CCR-W314-1023	10/18/2023 8:45	72990	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes

No

N/A

Cholla CCR Data Review

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	S.U.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	72889-72905	Review Date:	11/7/23
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52A-1023	10/11/2023 16:22	72889	
CH-CCR-M55A-1023	10/12/2023 10:28	72890	
CH-CCR-MW79A-1023	10/13/2023 11:03	72891	
CH-CCR-FD02-1023	10/13/2023 15:37	72892	Field Duplicate of CH-CCR-MW79A-1023
CH-CCR-W302-1023	10/12/2023 16:07	72893	
CH-CCR-W304-1023	10/12/2023 14:27	72894	
CH-CCR-W307R-1023	10/12/2023 13:09	72895	
CH-CCR-FD03-1023	10/12/2023 16:20	72896	Field Duplicate of CH-CCR-W307R-1023
CH-CCR-W308-1023	10/12/2023 11:32	72897	
CH-CCR-W309-1023	10/12/2023 9:23	72898	
CH-CCR-W317-1023	10/11/2023 10:16	72899	
CH-CCR-FD04-1023	10/11/2023 16:10	72900	Field Duplicate of CH-CCR-W317-1023
CH-CCR-M63A-1023	10/11/2023 12:33	72901	
CH-CCR-M64A-1023	10/11/2023 15:15	72902	
CH-CCR-W123R-1023	10/11/2023 13:52	72903	
CH-CCR-FAP-1023	10/13/2023 8:55	72904	
CH-CCR-FD06-1023	10/11/2023 13:31	72905	Field Duplicate of CH-CCR-M63A-1023

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-MW79A-1023	CH-CCR-FD02-1023
CH-CCR-W307R-1023	CH-CCR-FD03-1023
CH-CCR-W317-1023	CH-CCR-FD04-1023
CH-CCR-M63A-1023	CH-CCR-FD06-1023

b. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis

Cholla CCR Data Review

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	S.U.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	73310-73312	Review Date:	12/8/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-FD05-1023	11/21/2023 16:20	73310	Field Duplicate of CH-CCR-M44D-1023
CH-CCR-M44D-1023	11/21/2023 8:46	73311	
CH-CCR-W305-1123	11/21/2023 11:20	73312	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?
If No, provide details.

Yes No

Sample Login Matched COC?

Yes No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M44D-1023	CH-CCR-FD05-1023

b. Are RPDs between primary and duplicate results $\leq 20\%$ or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes

No

N/A

Cholla CCR Data Review

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	S.U.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	72991-73001, 73038-73045	Review Date:	11/14/2023
Validator's Name:	Caitlin Riechmann	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43A-1023	10/16/2023 16:23	72991	
CH-CCR-M45A-1023	10/17/2023 13:38	72992	
CH-CCR-M46A-1023	10/16/2023 13:22	72993	
CH-CCR-M50A-1023	10/17/2023 10:21	72994	
CH-CCR-M51A-1023	10/17/2023 9:37	72995	
CH-CCR-M65A-1023	10/16/2023 11:19	72996	
CH-CCR-M66A-1023	10/16/2023 10:15	72997	
CH-CCR-M67A-1023	10/16/2023 15:15	72998	
CH-CCR-W125-1023	10/17/2023 11:16	72999	
CH-CCR-W126R-1023	10/16/2023 9:29	73000	
CH-CCR-BudHunt-1023	10/17/2023 8:40	73001	
CH-CCR-EW01-1023	10/23/2023 15:15	73038	
CH-CCR-EW02-1023	10/23/2023 15:45	73039	
CH-CCR-EW03-1023	10/23/2023 16:45	73040	
CH-CCR-EW04-1023	10/23/2023 17:32	73041	
CH-CCR-GSX1R-1023	10/23/2023 17:13	73042	
CH-CCR-HuntB-1023	10/23/2023 14:20	73043	
CH-CCR-MW78A-1023	10/23/2023 13:00	73044	
CH-CCR-EB01-1023	10/25/2023 8:15	73045	Equipment blank

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

- J** The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- R** The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.
- U** The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ** The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Cholla CCR Data Review

Sample Receipt Condition:

COC Signed and Complete?

Yes

No

If No, provide details.

Sample Login Matched COC?

Yes

No

If no, provide details.

Sample receipt temperature $\leq 6^{\circ}\text{C}$?

Yes

No

N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling?

Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling?

Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks?

Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits?

Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

Cholla CCR Data Review

8. MS performed on a project-specific sample?

Yes

No

N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes

No

N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected?

Yes

No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results \leq 20% or are differences between analyte concentrations \leq the reporting limit?

Yes

No

N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes

No

N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes

No

N/A

Cholla CCR Data Review

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	S.U.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

APPENDIX

D

GROUNDWATER QUALITY
DATA TABLES THROUGH 2023

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-64A	Background	FAP/BAP	CH-CCR-M100-217	2/20/2017	1.1	570	4,000	<8.0	7.4	4,100	11,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-217	2/20/2017	1.2	520	4,500	<0.80	7.4	4,400	10,000
M-64A	Background	FAP/BAP	CH-CCR-FD02-41217	4/12/2017	1.2	550	4,200	<2.0	7.7	4,300	13,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-41217	4/12/2017	1.2	500	4,200	<0.80	7.6	4,200	13,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-42517	4/25/2017	1.3	490	4,100	<0.80	7.5	4,300	11,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-51817	5/18/2017	1.3	510	4,400	<0.80	7.6	4,400	12,000
M-64A	Background	FAP/BAP	CH-CCR-FD01-52417	5/24/2017	1.2	520	4,000	<0.80	7.4	4,100	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-52417	5/24/2017	1.3	520	4,200	<0.80	7.4	4,400	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-63017	6/30/2017	1.2	600	5,100	<0.80	7.3	4,700	13,000
M-64A	Background	FAP/BAP	CH-CCR-FD01-72717	7/27/2017	1.3	620	4,700	<0.80	7.4	4,600	13,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-72717	7/27/2017	1.3	640	4,900	<0.80	7.4	4,800	13,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-90717	9/7/2017	1.2	620	4,700	<0.80	7.3	4,300	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-120817	12/8/2017	1.2	500	3,500	<0.80	7.4	4,400	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-21518	2/15/2018	--	--	--	<0.80	--	--	--
M-64A	Background	FAP/BAP	CH-CCR-M-64A-51918	5/19/2018	1.4	460	4,700	<0.80	7.3	4,600	13,000
M-64A	Background	FAP/BAP	CH-CCR-M-64A-102218	10/22/2018	1.3	510	3,900	<0.80	7.4	3,700	13,000
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD-01-102218	10/22/2018	1.3	500	4,100	<2.0	7.3	4,000	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-21319	2/13/2019	--	--	--	<0.80	--	--	--
M-64A	Background	FAP/BAP	CH-CCR-M64A-41119	4/11/2019	1.3	500	4,400	<0.80	7.3 J	4,300	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-41619	4/16/2019	--	--	--	<0.80	--	--	--
M-64A	Background	FAP/BAP	CH-CCR-M64A-8119	8/1/2019	1.3	450	4,200	<0.8	7.4 J	4,300	12,000
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD01-8119	8/1/2019	1.3	450	4,300	<0.8	7.4 J	4,300	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-102419	10/24/2019	1.2	460	8,400	<0.80	7.5 J	8,600	13,000
M-64A	Background	FAP/BAP	CH-CCR-M64-0520	5/6/2020	1.2	520	3,900	<0.8	7.3 J	3,900	12,000
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD05-0520	5/6/2020	1.3	510	4,100	<0.8	7.6 J	4,100	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64-1020	10/24/2020	1.2	480	4,500	0.28	7.3 J	4,400	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64-0421	4/15/2021	1.2	540	4,300	0.21 J	7.5 J	4,400	6,600
M-64A	Background	FAP/BAP	CH-CCR-M64-1021	10/22/2021	1.0	540	4,400	0.38 J	7.4 J	3,900	11,000 J
M-64A	Background	FAP/BAP	CH-CCR-M64A-0422	4/26/2022	1.0	590	4,300	0.34 J	7.3 J	3,800	14,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-1022	10/22/2022	1.1	580	4,400	<0.8	7.3 J	4,000	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-0423	04/17/2023	1.1	640	4,200	<10	6.9 J	3,700	12,000
M-64A	Background	FAP/BAP	CH-CCR-M64A-1023	10/11/2023	0.91	570	4,100	<0.4	7.4 J	3,600	12,000
M-50A	Downgradient Boundary	FAP	7792	12/2/2015	2.8	680	2,800	2.0	7.55	2,900	8,300

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-50A	Downgradient Boundary	FAP	7793	12/2/2015	2.7	670	2,900	2.0	7.23	2,900	8,300
M-50A	Downgradient Boundary	FAP	CH-M-50A-0316	3/8/2016	2.9	660	5,300	2.0	7.37	5,700	8,300
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-516	5/5/2016	3.0	680	2,500	2.2	--	2,700	8,300
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-816	8/25/2016	2.6	650	2,600	2.3	7.2	2,800	8,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-916	9/23/2016	2.8	630	2,500	2.1	7.4	2,900	8,500
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-217	2/21/2017	2.9	680	2,400	2.1	7.5	2,800	7,900
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-41317	4/13/2017	2.8	680	2,800	2.0	7.8	3,000	8,200
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-42617	4/26/2017	2.8	620	2,400	2.0	7.2	2,900	7,900
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-51817	5/18/2017	2.8	670	2,600	2.2	7.6	3,200	7,300
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-52417	5/24/2017	3.0	680	2,700	2.3	7.4	3,200	8,300
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-63017	6/30/2017	2.7	630	2,700	2.4	7.3	3,300	8,100
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-72717	7/27/2017	2.8	660	2,600	2.5	7.4	3,100	8,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-90717	9/7/2017	3.0	660	2,500	2.2	7.2	3,100	8,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-120817	12/8/2017	2.9	650	2,600	2.2	7.4	3,000	8,000
M-50A	Downgradient Boundary	FAP	CH-CCR-FD01-21418	2/14/2018	--	--	--	2.4	--	--	--
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-21418	2/14/2018	--	--	--	2.6	--	--	--
M-50A	Downgradient Boundary	FAP	CH-CCR-M-50A-52118	5/21/2018	3.0	610	2,400	2.4	7.2	3,100	7,900
M-50A	Downgradient Boundary	FAP	CH-CCR-M-50A-102418	10/24/2018	3.1	630	2,200	1.9	7.4	3,100	8,100
M-50A	Downgradient Boundary	FAP	*DUP* CH-CCR-FD01-21319	2/13/2019	--	--	--	<0.80	--	--	--
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-21319	2/13/2019	--	--	--	2.2	--	--	--
M-50A	Downgradient Boundary	FAP	*DUP* CH-CCR-FD01-41119	4/11/2019	47	750	6,700	3.7	7.4	3,900	16,000
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-41119	4/11/2019	3.1	610	2,200	2.0	7.4	3,000	7,700
M-50A	Downgradient Boundary	FAP	CCH-CCR-M50A-112519	11/25/2019	--	--	--	--	--	--	--
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-112519	11/25/2019	3.1	610	2,100	2.1	7.1 J	3,000	7,800
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-0520	5/6/2020	3.0	600	1,900	2.3	7.5 J	3,000	7,700
M-50A	Downgradient Boundary	FAP	CH-CCR-M50-1020	10/25/2020	2.9	560	2,100	2.2	7.3 J	3,200	7,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50-0421	4/15/2021	3.0	630	2,000	2.4	7.5 J	3,200	8,100 J
M-50A	Downgradient Boundary	FAP	CH-CCR-M50-1021	10/23/2021	2.9	590	3,300	2.3	7.4 J	6,300	7,200 J
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-0422	4/28/2022	3.1	620	1,900	2.3	7.4 J	3,200	7,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-1022	10/22/2022	3.3	630	1,900	2.1	7.4 J	3,200	7,000
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-0423	04/17/2023	3.3	680	1,800	<4	7.5 J	3,000	7,400
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-1023	10/17/2023	3.0	570	1,900	2.5	7.4 J	3,000	7,500

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-51A	Downgradient Boundary	FAP	7880	12/2/2015	33	940	6,700	4.8	7.29	2,800	13,000
M-51A	Downgradient Boundary	FAP	CH-M-51A-0316	3/9/2016	33	930	6,400	5.2	7.27	2,700	14,000
M-51A	Downgradient Boundary	FAP	CH-DUP02-0316	3/9/2016	32	920	6,500	6.1	7.22	2,700	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-0516	5/5/2016	35	980	6,600	5.5	--	2,800	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-816	8/25/2016	36	960	6,500	6.0	7.1	3,000	15,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-916	9/23/2016	36	920	6,000	5.4	7.3	2,800	15,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-217	2/21/2017	33	920	6,500	4.4	7.1	2,800	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-41317	4/13/2017	35	970	7,500	4.1	7.6	2,900	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-42617	4/26/2017	35	880	6,300	4.6	7.2	2,900	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-51817	5/18/2017	35	890	6,800	5.0	7.3	3,200	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-52417	5/24/2017	38	940	6,600	5.3	7.3	3,100	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-FD02-63017	6/30/2017	36	860	7,100	5.1	7.2	3,300	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-63017	6/30/2017	36	880	7,000	4.9	7.2	3,300	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-72717	7/27/2017	38	950	7,100	6.0	7.3	3,500	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-90717	9/7/2017	38	950	6,600	5.7	7.2	3,100	14,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-120817	12/8/2017	34	910	5,900	5.1	7.3	2,800	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-21418	2/14/2018	--	--	--	5.4	--	--	--
M-51A	Downgradient Boundary	FAP	CH-CCR-M-51A-52118	5/21/2018	34	820	5,800	5.7	7.1	3,100	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M-51A-102418	10/24/2018	30	870	5,400	5.0	7.3	2,900	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-21319	2/13/2019	--	--	--	4.5	--	--	--
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-41119	4/10/2019	31	790	5,000	5.4	7.2	2,800	12,000
M-51A	Downgradient Boundary	FAP	CCH-CCR-M51A-112519	11/25/2019	--	--	--	--	--	--	--
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-112519	11/25/2019	30	820	5,300	4.8	7.2 J	2,900	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-0520	5/6/2020	32	860	5,300	5.6	7.2 J	2,900	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51-1020	10/25/2020	30	840	5,600 J	5.9	7.3 J	3,100	11,000
M-51A	Downgradient Boundary	FAP	*DUP* CH-CCR-FD05-1020	10/25/2020	30	850	4,900 J	6.0	7.3 J	2,800	11,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51-0421	4/15/2021	30	890	5,600	5.7	7.4 J	3,100	11,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51-1021	10/23/2021	28	840	8,700	5.7	7.3 J	5,600	11,000 J
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-0422	4/28/2022	30	830	5,200	5.6	7.3 J	2,900	13,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-1022	10/22/2022	30	870	5,000	5.0	7.3 J	3,100	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-0423	04/17/2023	29	870	4,800	5.8	7.5 J	2,800	12,000
M-51A	Downgradient Boundary	FAP	CH-CCR-M51A-1023	10/17/2023	27	860	6,300	5.6	7.3 J	2,800	14,000
MW-65A	Downgradient	FAP	*DUP* CH-CCR-FD01-12518	12/5/2018	43	760	6,900	3.6 J, UJ	7.4 J	4,100	16,000

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
MW-65A	Downgradient	FAP	CH-CCR-MW65A-2518	12/5/2018	12	780	3,900	1.9 J, UJ	7.3 J	2,700	9,900
MW-65A	Downgradient	FAP	CH-CCR-M65A-21419	2/14/2019	--	--	--	1.7	--	--	--
MW-65A	Downgradient	FAP	CH-CCR-M65A-41119	4/11/2019	11	730	3,600	1.9	7.2 J	2,700	9,400
MW-65A	Downgradient	FAP	CCH-CCR-M65A-112619	11/26/2019	--	--	--	--	--	--	--
MW-65A	Downgradient	FAP	CH-CCR-M65A-112619	11/26/2019	12	760	3,500	1.7	7.1 J	2,900	9,300
MW-65A	Downgradient	FAP	CH-CCR-M65-0520	5/5/2020	11	750	3,600	1.8	7.4 J	2,900	9,400
MW-65A	Downgradient	FAP	CH-CCR-M65-1020	10/25/2020	13	780	4,200	2.6	7.0 J	3,200	10,000
MW-65A	Downgradient	FAP	CH-CCR-M65-0421	4/14/2021	11	800	3,500	2.4	7.3 J	3,100	8,700
MW-65A	Downgradient	FAP	CH-CCR-M65-1021	10/22/2021	12	770	3,700	2.4	7 J	3,100	9,200 J
MW-65A	Downgradient	FAP	CH-CCR-M65A-0422	4/26/2022	10	760	3,000	1.7	7.2 J	2,800	9,100
MW-65A	Downgradient	FAP	CH-CCR-M65A-1022	10/21/2022	13	810	3,800	2.3	6.9 J	3,500	10,000
MW-65A	Downgradient	FAP	CH-CCR-M65A-0423	04/15/2023	11 J	820	2,900	<4	7.5 J	2,900	8,700
MW-65A	Downgradient	FAP	CH-CCR-M65A-1023	10/16/2023	14	830	4,300	3.0	6.9 J	3,700	12,000
MW-66A	Downgradient	FAP	CH-CCR-MW66A-2518	12/5/2018	1.2	830	4,600	0.93 J, UJ	8.1 J	2,900	11,000
MW-66A	Downgradient	FAP	CH-CCR-M66A-21419	2/14/2019	--	--	--	1.1	--	--	--
MW-66A	Downgradient	FAP	CH-CCR-M66A-41119	4/11/2019	1.5	790	4,300	1.4	7.2 J	2,800	11,000
MW-66A	Downgradient	FAP	*DUP* CCH-CCR-FD01-112619	11/26/2019	--	--	--	--	--	--	--
MW-66A	Downgradient	FAP	*DUP* CH-CCR-FD01-112619	11/26/2019	1.5	780	4,600	1.1	7.2 J	3,100	11,000
MW-66A	Downgradient	FAP	CCH-CCR-M66A-112619	11/26/2019	--	--	--	--	--	--	--
MW-66A	Downgradient	FAP	CH-CCR-M66A-112619	11/26/2019	1.5	780	4,600	1.1	7.2 J	3,100	11,000
MW-66A	Downgradient	FAP	CH-CCR-M66-0520	5/5/2020	1.6	800	4,600	1.1	7.3 J	3,100	11,000
MW-66A	Downgradient	FAP	CH-CCR-M66-1020	10/25/2020	1.5	750	4,400	1.4	7.1 J	3,000	10,000
MW-66A	Downgradient	FAP	CH-CCR-M66-0421	4/15/2021	1.7	820	4,400	1.6	7.3 J	3,100	10,000
MW-66A	Downgradient	FAP	CH-CCR-M66-1021	10/24/2021	1.7	800	4,400	1.3	7.4 J	3,000	11,000 J
MW-66A	Downgradient	FAP	CH-CCR-M66A-0422	4/27/2022	1.9	840	4,100 J	1.4	7.2 J	3,000 J	11,000
MW-66A	Downgradient	FAP	*DUP* CH-CCR-FD06-0422	4/27/2022	1.9	810	12,000 J	1.4	7.2 J	9,800 J	11,000
MW-66A	Downgradient	FAP	CH-CCR-M66A-1022	10/21/2022	2.1	800	4,100	1.2	7.3 J	3,100	9,900
MW-66A	Downgradient	FAP	CH-CCR-M66A-0423	04/15/2023	2.6 J	1,000	4,100	<4	7.3 J	3,000	10,000
MW-66A	Downgradient	FAP	CH-CCR-M66A-1023	10/16/2023	2.0	740	3,800	1.4	7.4 J	3,000	9,900
MW-67A	Downgradient	FAP	CH-CCR-MW67A-2518	12/5/2018	0.38	1,500	5,000	1.0 J, UJ	6.9 J	1,500	9,300
MW-67A	Downgradient	FAP	CH-CCR-M67A-21419	2/14/2019	--	--	--	<0.80	--	--	--
MW-67A	Downgradient	FAP	CH-CCR-M67A-41119	4/11/2019	0.37	1,500	4,900	<0.80	6.9 J	1,500	11,000
MW-67A	Downgradient	FAP	CCH-CCR-M67A-112619	11/26/2019	--	--	--	--	--	--	--

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
MW-67A	Downgradient	FAP	CH-CCR-M67A-112619	11/26/2019	0.38	1,500	5,000	<0.80	6.8 J	1,500	11,000
MW-67A	Downgradient	FAP	CH-CCR-M67-0520	5/5/2020	0.36	1,700	5,400	0.95	7.1 J	1,500	11,000
MW-67A	Downgradient	FAP	CH-CCR-M67-1020	10/25/2020	0.33	1,600	5,500	0.47	7.5 J	1,500	12,000
MW-67A	Downgradient	FAP	CH-CCR-M67-0421	4/14/2021	0.34	1,700	5,700	0.61 J	7.0 J	1,600	11,000
MW-67A	Downgradient	FAP	CH-CCR-M67-1021	10/22/2021	0.34	1,700	5,700	0.90	7.1 J	1,500	10,000 J
MW-67A	Downgradient	FAP	CH-CCR-M67A-0422	4/27/2022	0.37	770	2,200	0.83	7.1 J	1,600	6,300
MW-67A	Downgradient	FAP	CH-CCR-M67A-1022	10/21/2022	0.37	650	2,200	<0.8	7.2 J	1,700	5,700
MW-67A	Downgradient	FAP	CH-CCR-M67A-0423	04/15/2023	0.46 J	750	1,900	<4	7.2 J	1,600	5,400
MW-67A	Downgradient	FAP	CH-CCR-M67A-1023	10/16/2023	0.35	520	2,000	0.8	7.3 J	1,800	5,000
W-123	Downgradient Boundary	FAP	CH-W-123-0316	3/8/2016	34	800	6,100	3.6	7.47	3,300	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-0516	5/6/2016	35	830	6,200	3.6	--	3,300	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-816	8/25/2016	36	800	5,900	4.1	7.6	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-916	9/22/2016	37	810	6,000	3.7	7.7	3,600	15,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-217	2/20/2017	37	860	6,200	<8.0	7.6	3,400	13,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-41317	4/13/2017	35	880	6,600	4.0	8.1	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-42617	4/26/2017	34	780	6,300	3.5	7.7	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-52217	5/22/2017	35	850	6,300	3.8	7.6	3,500	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-52417	5/24/2017	34	810	6,200	3.8	7.6	3,500	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-63017	6/30/2017	35	810	6,700	3.8	7.5	3,700	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-72717	7/27/2017	36	860	6,900	3.7	7.6	3,800	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-90717	9/7/2017	36	870	6,700	3.7	7.5	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-120817	12/8/2017	37	890	6,700	4.1	7.6	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-21418	2/14/2018	--	--	--	4.2	--	--	--
W-123	Downgradient Boundary	FAP	CH-CCR-W-123-52118	5/21/2018	35	790	6,400	4.3	7.5	3,600	15,000
W-123	Downgradient Boundary	FAP	*DUP* CH-CCR-FD-02-102418	10/24/2018	36	850	6,700	3.9	7.7	3,600	15,000
W-123	Downgradient Boundary	FAP	CH-CCR-W-123-102418	10/24/2018	37	850	6,600	4.0	7.7	3,600	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-21319	2/13/2019	--	--	--	3.7	--	--	--
W-123	Downgradient Boundary	FAP	*DUP* CH-CCR-FD02-41119	4/11/2019	--	--	--	--	--	--	--
W-123	Downgradient Boundary	FAP	CH-CCR-w123-41119	4/11/2019	37	790	6,200	3.9	7.6 J	3,400	14,000
W-123	Downgradient Boundary	FAP	*DUP* CH-CCR-FD02-8119	8/1/2019	3.2	600	2,200	2.3	7.3 J	3,000	8,500
W-123	Downgradient Boundary	FAP	CCH-CCR-W123-112519	11/25/2019	--	--	--	--	--	--	--
W-123	Downgradient Boundary	FAP	CH-CCR-W123-112519	11/25/2019	35	780	6,600	3.6	7.6 J	3,700	15,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-0520	5/6/2020	37	780	5,700	4.8	7.5 J	3,400	13,000

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
W-123	Downgradient Boundary	FAP	CH-CCR-W123-1020	10/26/2020	37	860	6,400	3.6	6.8 J	3,800	14,000
W-123	Downgradient Boundary	FAP	CH-CCR-W123-0421	4/15/2021	36	870	6,000	4.7	7.7 J	3,600	14,000
W-123R	Downgradient Boundary	FAP	CH-DEV-W123R-0621	6/5/2021	31	750	5,000	5.0	--	3,100	12,000 J
W-123R	Downgradient Boundary	FAP	CH-ABREP-W123R-0621	6/15/2021	36	750	5,300	4.1	--	3,500	12,000
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-0821	8/3/2021	39	730	5,400	5.2	7.8 J	3,500	12,000
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-1021	10/23/2021	38	720	6,300	5.6	7.6 J	4,200	11,000 J
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-0422	4/28/2022	43	800	15,000	5.9	7.7 J	12,000	16,000
W-123R	Downgradient Boundary	FAP	CH-CCR-SS10-0422	4/28/2022	36.2	720	5,460	5.28/6 J	7.6 J	3,700	14,000
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-1022	10/22/2022	39	770	8,100	5.9	7.7 J	6,700	13,000
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-0423	04/17/2023	40	840	5,700	5.9	7.7 J	3,300	13,000
W-123R	Downgradient Boundary	FAP	CH-CCR-W123R-1023	10/11/2023	41	730	5,600	5.4	7.7 J	3,600	13,000
EW-01	Extraction Well	FAP	CH-CCR-EW01-1023	10/23/2023	16	810	6,100	<0.4	6.7 J	4,500	12,000
EW-02	Extraction Well	FAP	EW02-018521	1/8/2021	--	730	4,000	1.6	--	3,300	11,000
EW-02	Extraction Well	FAP	CH-CCR-EW02-1023	10/23/2023	27	750	6,800	3.3	7.3 J	5,400	13,000
EW-03	Extraction Well	FAP	CH-CCR-EW03-1023	10/23/2023	8.7	710	4,700	1.7	7.3 J	4,800	11,000
EW-04	Extraction Well	FAP	EW04-010521	1/5/2021	--	770	4,900	3.9	--	3,000	12,000
EW-04	Extraction Well	FAP	CH-CCR-EW04-1023	10/23/2023	31	840	5,200	4.3	7.8 J	2,800	12,000
GSX-1R	Extraction Well	FAP	CH-CRT-GSX1R-0621	6/28/2021	16	--	--	2.5	--	--	--
GSX-1R	Extraction Well	FAP	CH-CRT2-GSX1R-0621	6/29/2021	15	--	--	2.5	--	--	--
GSX-1R	Extraction Well	FAP	CH-CRT3-GSX1R-0621	6/29/2021	15	--	--	2.5	--	--	--
GSX-1R	Extraction Well	FAP	CH-CCR-GSX1R-0821	8/3/2021	7.5	750	4,400	2.8	7.6 J	3,000	9,700
GSX-1R	Extraction Well	FAP	CH-CCR-GSX1R-1023	10/23/2023	18	740	4,200	2.6	7.5 J	3,000	11,000
M-43A	Supplementary	FAP	CH-CCR-M43A-1216	12/21/2016	0.85	850	2,400	<0.80	7.3	2,000	6,600
M-43A	Supplementary	FAP	CH-CCR-M43A-1216	12/21/2016	--	--	--	<0.80	--	--	--
M-43A	Supplementary	FAP	CH-CCR-M43-0421	4/14/2021	2.8	900	2,100	0.49 J	7.3 J	2,100	6,200
M-43A	Supplementary	FAP	CH-CCR-M43-1021	10/22/2021	1.3	780	2,100	0.2 J	7.4 J	2,200	6,200 J
M-43A	Supplementary	FAP	CH-CCR-MW43A-0422	4/26/2022	0.95	780	2,100	0.30 J	7.2 J	2,000	6,600
M-43A	Supplementary	FAP	CH-CCR-M43A-0423	04/15/2023	1.7 J	840	2,300	<4	7.6 J	2,200	3,500
M-43A	Supplementary	FAP	CH-CCR-M43A-1023	10/16/2023	0.49	530	210	<0.8	7.5 J	1,900	6,500
M-44D	Supplementary	FAP	7795	12/2/2015	0.26	91	1,100	0.70	7.49	310	2,200
M-44D	Supplementary	FAP	CH-M-44D-0316	3/10/2016	0.23	88	1,100	0.72	7.13	310	2,200
M-44D	Supplementary	FAP	CH-CCR-M-44D-516	5/22/2016	0.25	91	1,100	0.78	--	310	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-816	8/26/2016	0.24	90	1,100	0.77	7.1	320	2,300

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-44D	Supplementary	FAP	CH-CCR-M44D-916	9/23/2016	0.25	91	1,000	0.76	7.1	320	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-217	2/20/2017	0.26	92	1,100	0.68	7.1	430	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-41317	4/13/2017	0.25	93	1,200	0.72	7.6	320	2,300
M-44D	Supplementary	FAP	CH-CCR-FD01-42417	4/24/2017	0.26	91	1,000	0.73	7.2	330	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-42417	4/24/2017	0.26	89	1,000	0.73	7.2	370	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-52217	5/22/2017	0.26	93	1,100	0.75	7.4	330	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-52517	5/25/2017	0.26	96	1,400	0.76	7.4	400	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-62917	6/29/2017	0.25	88	1,200	0.79	7.2	340	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-72917	7/29/2017	0.26	93	1,200	0.78	7.1	350	2,400
M-44D	Supplementary	FAP	CH-CCR-M44D-90517	9/5/2017	0.27	93	1,100	0.77	7.1	330	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-0520	5/7/2020	--	89	970	0.81	--	310	--
M-44D	Supplementary	FAP	CH-CCR-M44D-1020	10/24/2020	0.22	78	960	0.73	7.1 J	290	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-0421	4/16/2021	0.25	91	1,000	0.77 J	7.0 J	330 J	2,300
M-44D	Supplementary	FAP	*DUP* CH-CCR-FD05-0421	4/16/2021	0.29	87	1,000	0.75 J	7.0 J	320 J	2,300
M-44D	Supplementary	FAP	CH-CCR-M44D-1021	10/23/2021	0.24 J	84	1,100	0.76 J	7.1 J	330 J	2,200 J
M-44D	Supplementary	FAP	CH-CCR-FD06-1021	10/23/2021	0.43 J	83	1,100	0.66 J	--	410 J	--
M-44D	Supplementary	FAP	CH-CCR-M44D-0422	4/29/2022	0.26	94	1,000	0.74 J	7.0 J	320	2,600
M-44D	Supplementary	FAP	CH-CCR-M44D-1022	10/19/2022	0.25	90	1,000	0.91	7.2 J	320	2,200
M-44D	Supplementary	FAP	*DUP* CH-CCR-FD05-1022	10/19/2022	0.26	90	1,000	0.89	7.2 J	320	2,200
M-44D	Supplementary	FAP	CH-CCR-M44D-0423	04/13/2023	0.27 J	95	1,100	<0.8	7.5 J	320 J	4,600 J
M-44D	Supplementary	FAP	CH-CCR-M44D-1023	11/21/2023	0.33	98	1,000	<0.8	7.2 J	<400	2,300
M-44D	Supplementary	FAP	CH-CCR-FD05-1023	11/21/2023	0.32	100	1,100	<0.8	7.1 J	<400	2,300
M-45A	Supplementary	FAP	CH-M-45A-0913	9/17/2013	--	--	960	--	--	2,200	--
M-45A	Supplementary	FAP	CH-M-45A-0913_C29829-8	9/17/2013	0.994	725	--	1.0	6.8	--	5,090
M-45A	Supplementary	FAP	CH-M-45A-1113	11/21/2013	--	--	860	--	--	2,100	--
M-45A	Supplementary	FAP	CH-M-45A-1113_C31100-6	11/21/2013	1.01	713	--	0.67	7.02	--	3,130
M-45A	Supplementary	FAP	CH-M-45A-0314	3/26/2014	1.01	736	--	0.83	6.98	--	5,090
M-45A	Supplementary	FAP	CH-M-45A-0614	6/10/2014	0.841	760	770	0.90	7.16	2,200	4,990
M-45A	Supplementary	FAP	CH-M-45A-0615	6/16/2015	1.13	701	843	0.90	7.08	2,730	5,370
M-45A	Supplementary	FAP	CH-CCR-M45A-1216	12/21/2016	1.1	630	800	0.76	7.2	2,100	4,400
M-45A	Supplementary	FAP	CH-CCR-M45A-1216	12/21/2016	--	--	--	0.78	--	--	--
M-45A	Supplementary	FAP	CH-CCR-M45-0421	4/14/2021	1.1	690	810	0.65 J	7.2 J	2,300	4,200
M-45A	Supplementary	FAP	CH-CCR-M45-1021	10/22/2021	1.0	640	790	0.57 J	7.1 J	2,400	4,200 J

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-45A	Supplementary	FAP	CH-CCR-M45A-0422	4/26/2022	1.1	680	700	0.64 J	7.0 J	2,200	4,600
M-45A	Supplementary	FAP	CH-CCR-M45A-1022	10/21/2022	1.1	650	800	<0.8	7.0 J	2,400	4,500
M-45A	Supplementary	FAP	CH-CCR-M45A-0423	04/15/2023	1.2 J	720	730	<4	7.2 J	2,400	2,600
M-45A	Supplementary	FAP	CH-CCR-M45A-1023	10/17/2023	1.0	600	700	<0.8	7.3 J	2,100	4,700
M-46A	Supplementary	FAP	CCH-CCR-M46A-112619	11/26/2019	--	--	--	--	--	--	--
M-46A	Supplementary	FAP	CH-CCR-M46A-112619	11/26/2019	0.64	1,300	6,400	<0.80	7.0 J	1,900	13,000
M-46A	Supplementary	FAP	CH-CCR-M46-0520	5/5/2020	0.64	1,300	7,100 J	<0.8 UJ	7.4 J	7,800 J	13,000
M-46A	Supplementary	FAP	CH-CCR-M46-1020	10/25/2020	0.58	1,300	6,900	0.51	7.2 J	2,100	13,000
M-46A	Supplementary	FAP	CH-CCR-M46-0421	4/14/2021	0.66	1,400	6,900	0.68 J	7.2 J	2,200	14,000
M-46A	Supplementary	FAP	CH-CCR-M46-1021	10/22/2021	0.64	1,200	6,700	0.97	7.1 J	2,300	12,000 J
M-46A	Supplementary	FAP	CH-CCR-M46A-0422	4/27/2022	0.70	1,200	6,300	0.74 J	7.0 J	2,100	13,000
M-46A	Supplementary	FAP	CH-CCR-M46A-1022	10/21/2022	0.70	1,200	6,500	<0.8	7.2 J	2,400	10,000
M-46A	Supplementary	FAP	CH-CCR-M46A-0423	04/15/2023	0.74 J	1,100	5,400	<4	7.4 J	2,600	11,000
M-46A	Supplementary	FAP	CH-CCR-M46A-1023	10/16/2023	0.64	950	1,700	1.0	7.3 J	2,800	12,000
M-63A	Supplementary	FAP	7871	11/30/2015	0.12	160	260	<0.40	7.72	700	1,600
M-63A	Supplementary	FAP	CH-M-63A-0316	3/10/2016	0.27	160	620	<0.40	7.53	620	2,100
M-63A	Supplementary	FAP	CH-M-63A-0316	3/10/2016	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-050516	5/5/2016	0.29	160	660	<0.40	--	590	2,100
M-63A	Supplementary	FAP	CH-CCR-M100-816	8/24/2016	0.18	160	260	0.46	7.4	630	1,600
M-63A	Supplementary	FAP	CH-CCR-M100-816	8/24/2016	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-816	8/24/2016	0.17	160	270	<0.40	7.4	640	1,600
M-63A	Supplementary	FAP	CH-CCR-M63A-816	8/24/2016	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-916	9/21/2016	0.20	160	330	<0.40	7.6	640	1,700
M-63A	Supplementary	FAP	CH-CCR-M63A-916	9/21/2016	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-APP-M63A-1016	10/4/2016	--	160	530	<0.40	7.8	580	1,900
M-63A	Supplementary	FAP	CH-CCR-M63A-217	2/20/2017	--	--	--	--	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-41317	4/13/2017	0.27	160	580	<0.40	7.7	590	2,100
M-63A	Supplementary	FAP	CH-CCR-M63A-41317	4/13/2017	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-42617	4/26/2017	0.26	150	570	<0.40	7.3	640	2,000
M-63A	Supplementary	FAP	CH-CCR-M63A-42617	4/26/2017	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-APP-M63A-52217	5/22/2017	0.22	150	450	<0.40	7.9	640	1,800
M-63A	Supplementary	FAP	CH-CCR-M63A-52217	5/22/2017	0.22	160	440	<0.40	7.8	620	1,800
M-63A	Supplementary	FAP	CH-CCR-M63A-52217	5/22/2017	--	--	--	<0.40	--	--	--

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
M-63A	Supplementary	FAP	CH-CCR-M63A-52417	5/24/2017	0.22	150	410	<0.40	7.7	620	1,800
M-63A	Supplementary	FAP	CH-CCR-M63A-52417	5/24/2017	--	--	--	<0.40	--	--	--
M-63A	Supplementary	FAP	CH-CCR-M63A-63017	6/30/2017	0.19	150	300	<0.40	7.6	670	1,600
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD02-72817	7/28/2017	0.19	180	270	<0.80	7.5	660	1,800
M-63A	Supplementary	FAP	CH-CCR-M63A-72817	7/28/2017	0.19	170	320	<0.40	7.4	720	1,800
M-63A	Supplementary	FAP	CH-CCR-M63A-90717	9/7/2017	0.19	170	290	<0.40	7.3	700	1,700
M-63A	Supplementary	FAP	CH-APP-M63A-62419	6/24/2019	0.23	150	330	<0.40	7.5	600	1,700
M-63A	Supplementary	FAP	CH-CCR-M63-0421	4/15/2021	0.24	150	450	0.27 J	7.7 J	540	1,800
M-63A	Supplementary	FAP	CH-CCR-M63-1021	10/24/2021	0.23	150	360	0.25 J	7.6 J	600	1,500 J
M-63A	Supplementary	FAP	CH-CCR-M63A-0422	4/27/2022	0.26	190	420	0.22 J	7.4 J	760	1,900
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD05-0422	4/27/2022	0.23	190	380	0.22 J	7.4 J	720	1,900
M-63A	Supplementary	FAP	CH-CCR-SS09-0422	4/27/2022	0.215	182	406	0.25 J/<2.5	8.2 J	729	1,910
M-63A	Supplementary	FAP	CH-CCR-M63A-1022	10/21/2022	0.23	180	450	<0.8	7.5 J	710	1,900
M-63A	Supplementary	FAP	CH-CCR-M63A-0423	04/15/2023	0.24 J	200	440	<4	7.2 J	630	1100 J
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD05-0423	04/15/2023	0.27 J	210	440	<4	7.5 J	620	1900 J
M-63A	Supplementary	FAP	CH-CCR-M63A-1023	10/11/2023	0.21	130	160	<0.4	7.6 J	480	1,600
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD06-1023	10/11/2023	0.20	130	150	<0.4	7.7 J	480	1,600
W-125	Supplementary	FAP	7794	12/2/2015	0.17	130	820	0.57	7.24	320	1,900
W-125	Supplementary	FAP	CH-W-125-0316	3/9/2016	0.15	120	780	0.48	7.63	330	1,800
W-125	Supplementary	FAP	CH-CCR-W125-516	5/22/2016	0.16	120	810	0.53	--	320	1,900
W-125	Supplementary	FAP	CH-CCR-W125-816	8/26/2016	0.16	130	820	0.55	7.4	320	1,900
W-125	Supplementary	FAP	CH-CCR-W125-916	9/23/2016	0.17	120	760	0.57	7.6	310	1,900
W-125	Supplementary	FAP	CH-CCR-W125-217	2/20/2017	0.17	130	760	<4.0	7.5	320	1,800
W-125	Supplementary	FAP	CH-CCR-W125-41317	4/13/2017	0.16	130	810	0.52	7.9	320	1,900
W-125	Supplementary	FAP	CH-CCR-W125-42617	4/26/2017	0.17	120	760	0.54	7.7	320	1,900
W-125	Supplementary	FAP	CH-CCR-FD02-52217	5/22/2017	0.17	130	790	0.53	7.7	320	1,800
W-125	Supplementary	FAP	CH-CCR-W125-52217	5/22/2017	0.17	130	790	0.52	7.8	320	1,800
W-125	Supplementary	FAP	CH-CCR-W125-52417	5/24/2017	0.17	130	800	0.55	7.7	330	1,800
W-125	Supplementary	FAP	CH-CCR-W125-62917	6/29/2017	0.15	120	800	0.56	7.7	340	1,800
W-125	Supplementary	FAP	CH-CCR-W125-72717	7/27/2017	0.18	130	780	<0.80	7.6	330	1,900
W-125	Supplementary	FAP	CH-CCR-FD02-90617	9/6/2017	0.17	130	800	0.54	7.6	330	1,800
W-125	Supplementary	FAP	CH-CCR-W125-90617	9/6/2017	0.17	130	800	0.54	7.6	330	1,900
W-125	Supplementary	FAP	CH-CCR-W125-0520	5/6/2020	--	130	680	<0.8	--	320	--

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
W-125	Supplementary	FAP	CH-CCR-W125-1020	10/24/2020	0.16	120	3,000	0.53	7.5 J	1,200	1,800
W-125	Supplementary	FAP	CH-CCR-W125-0421	4/15/2021	0.18	130	730	0.55 J	7.7 J	350 J	1,700
W-125	Supplementary	FAP	CH-CCR-W125-1021	10/23/2021	0.18	120	750	0.56 J	7.7 J	310	1,700 J
W-125	Supplementary	FAP	CH-CCR-FD05-1021	10/23/2021	0.16	120	760	0.53 J	7.7 J	380	1600 J
W-125	Supplementary	FAP	CH-CCR-W125-0422	4/28/2022	0.20	120	720	0.57 J	7.5 J	320	1,800
W-125	Supplementary	FAP	CH-CCR-W125-1022	10/22/2022	0.19	120	670	<0.8	7.6 J	320	1,700
W-125	Supplementary	FAP	CH-CCR-W125-0423_A	04/17/2023	0.18	130	690	<0.8	7.7 J	320	1,800
W-125	Supplementary	FAP	CH-CCR-W125-0423	04/25/2023	--	--	--	--	--	--	--
W-125	Supplementary	FAP	CH-CCR-W125-1023	10/17/2023	0.15	110	720	<0.8	7.6 J	320	1,800
W-126	Supplementary	FAP	CH-APP-W126-010318	1/3/2018	--	--	6,100	3.7	--	3,800	--
W-126	Supplementary	FAP	CH-CCR-W-126-125128	12/5/2018	43	760	7,400	3.5 J, UJ	7.4 J	4,200	17,000
W-126	Supplementary	FAP	CH-CCR-W126-41119	4/11/2019	46	740	6,700	3.7	7.4 J	3,900	16,000
W-126	Supplementary	FAP	CH-APP-W126-51519	5/15/2019	--	--	--	4.0	--	--	--
W-126	Supplementary	FAP	CH-APP-W126-62419	6/24/2019	45	--	7,000	3.8	7.4	3,800	17,000
W-126	Supplementary	FAP	CH-APP-W126-71119	7/11/2019	--	--	7,200	3.7	--	3,900	--
W-126	Supplementary	FAP	CH-APP-W126-81919	8/19/2019	--	--	7,200	2.8	--	4,200	--
W-126	Supplementary	FAP	*DUP* CH-APP-W126FD-111419	11/14/2019	--	--	7,200	4.1	--	4,200	--
W-126	Supplementary	FAP	CH-APP-W126-111419	11/14/2019	--	--	7,000	4.0	--	4,200	--
W-126	Supplementary	FAP	CCH-CCR-W126-112619	11/26/2019	--	--	--	--	--	--	--
W-126	Supplementary	FAP	CH-CCR-W126-112619	11/26/2019	48	720	7,000	3.6	7.3 J	4,200	15,000
W-126	Supplementary	FAP	CH-CCR-W126-0520	5/5/2020	50	780	6,900	4.1	7.5 J	4,100	16,000
W-126	Supplementary	FAP	CH-CCR-W126-1020	10/25/2020	43	720	6,900	4.2	7.5 J	4,500	15,000
W-126	Supplementary	FAP	CH-CCR-W126-0421	4/15/2021	41	790	6,700	3.9	7.6 J	4,400	16,000
W-126R	Supplementary	FAP	CH-DEV-W126R-0621	6/4/2021	40	750	6,600	5.0	--	3,800	16,000 J
W-126R	Supplementary	FAP	CH-ABREP-W126R-0621	6/15/2021	42	760	6,400	3.6	--	3,800	14,000
W-126R	Supplementary	FAP	CH-CCR-W126R-0821	8/3/2021	44	730	6,300	4.6	7.6 J	4,000	14,000
W-126R	Supplementary	FAP	CH-CCR-W126R-1021	10/23/2021	46	730	7,400	5.6	7.5 J	5,100	12,000 J
W-126R	Supplementary	FAP	CH-CCR-W126R-0422	4/27/2022	49	820	15,000	5.6	7.5 J	11,000	16,000
W-126R	Supplementary	FAP	CH-CCR-126R-1022	10/21/2022	47	740	5,500	5.7	7.5 J	3,800	16,000
W-126R	Supplementary	FAP	CH-CCR-W126R-0423	04/15/2023	44 J	830	5,400	5.3	7.6 J	3,700	--
W-126R	Supplementary	FAP	CH-CCR-W-126R-1023	10/16/2023	43	740	6,300	5.0	7.6 J	3,700	14,000
FAP	Supplementary	FAP	CH-FAP-01052012	1/5/2012	110	--	10,000	21	7.07	8,400	26,000
FAP	Supplementary	FAP	CH-FAP-1172012	11/7/2012	130	740	11,000	30	--	9,800	30,000

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
FAP	Supplementary	FAP	CH-FAP-031313	3/13/2013	--	--	10,700	--	--	10,400	--
FAP	Supplementary	FAP	CH-FAP-031313_C26660-2	3/13/2013	118	870	--	15.6	6.56	--	30,200
FAP	Supplementary	FAP	CH-FAP-031313_C26660-2F	3/13/2013	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-FAP-0913	9/18/2013	--	--	10,000	--	--	9,600	--
FAP	Supplementary	FAP	CH-FAP-0913_C29829-11	9/18/2013	137	655	--	19.7	5.69	--	34,600
FAP	Supplementary	FAP	CH-FAP-0913_C29829-11F	9/18/2013	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-FAP-0514	5/22/2014	--	--	10,000	--	--	9,900	--
FAP	Supplementary	FAP	CH-FAP-0514_C34218-5	5/22/2014	139	694	--	20.3	6.3	--	34,800
FAP	Supplementary	FAP	CH-FAP-1014	10/13/2014	152	860	10,600	37.9	5.8	10,700	36,800
FAP	Supplementary	FAP	CH-FAP-0115	1/17/2015	--	--	--	40.6	6.99	--	34,200
FAP	Supplementary	FAP	CH-FAP-0515	5/4/2015	131	832	8,450	24.7	5.46	9,140	35,000
FAP	Supplementary	FAP	CH-APP-FAP-0615	6/15/2016	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-APP-FAP-070516	7/5/2016	--	--	--	49	--	--	--
FAP	Supplementary	FAP	CH-APP-Flyash-1016	10/12/2016	210	--	15,000	53	3.0	15,000	38,000
FAP	Supplementary	FAP	CH-APP-FPF-1116	11/17/2016	--	--	--	29	--	--	21,000
FAP	Supplementary	FAP	CH-CCR-FAP-1216	12/21/2016	170	600	15,000	55	3.1	17,000	15,000
FAP	Supplementary	FAP	CH-CCR-FAP-1216	12/21/2016	--	--	--	50	--	--	--
FAP	Supplementary	FAP	CH-CCR-M100-1216	12/21/2016	170	610	15,000	55	3.1	16,000	21,000
FAP	Supplementary	FAP	CH-CCR-M100-1216	12/21/2016	--	--	--	51	--	--	--
FAP	Supplementary	FAP	CH-APP-FAP-60717	6/7/2017	230	--	17,000	53	3.8	17,000	46,000
FAP	Supplementary	FAP	CH-APP-FAP-60717	6/7/2017	230	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-APP-FAP-70217	7/2/2017	240	690	--	57	--	--	--
FAP	Supplementary	FAP	CH-APP-FAP-10617	10/6/2017	270	--	19,000	3.9	3.5	20,000	56,000
FAP	Supplementary	FAP	CH-APP-FAP-10617	10/6/2017	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-APP-FFAP-10617	10/6/2017	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-CCR-FAP-33019	3/30/2019	350	730	24,000	5.1R	6.7 J	24,000	74,000
FAP	Supplementary	FAP	CH-CCR-FAP-33019	3/30/2019	--	--	--	68 J	--	--	--
FAP	Supplementary	FAP	CH-APP-FAP-42919	4/29/2019	310	--	24,000	69 J	7.1 J	25,000	77,000
FAP	Supplementary	FAP	CH-CCR-FAP-1021	10/31/2021	680	680	54,000	290	5.8 J	52,000	160,000
FAP	Supplementary	FAP	CH-CCR-FAP-0422	4/21/2022	610	710	49,000	120	6.5 J	46,000	100,000
FAP	Supplementary	FAP	CH-CCR-SS11-0422	4/21/2022	632	1,340	48,400	69.6 J/21.2	6.4 J	46,200 J	149,000
FAP	Supplementary	FAP	CH-CCR-FAP-1022	10/26/2022	510	800	41,000	84	6.8 J	38,000	130,000 J
FAP	Supplementary	FAP	CH-CCR-FAP-0423	04/25/2023	500	680	50,000	<400	7.1 J	44,000	150,000

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
FAP BTV					1.3	740	5,700	0.8	7.4	5,100	15,000
FAP GWPS					--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date							
FAP	Supplementary	FAP	CH-CCR-FAP-1023	10/13/2023	1,000	130	78,000	19	6.1 J	69,000	180,000
Bud	Supplementary	FAP	Bud Hunt	10/8/2012	0.107	93.9	310	0.80	7.47	390	1,100
Bud	Supplementary	FAP	CH-BUD-0613	6/5/2013	--	--	320	--	--	240	--
Bud	Supplementary	FAP	CH-BUD-0613_C28117-4	6/5/2013	0.112	96.2	--	0.44	7.33	--	1,080
Bud	Supplementary	FAP	CH-BUD-0614	6/11/2014	0.14	85.9	320	0.49	8.14	240	1,040
Bud	Supplementary	FAP	CH-BUD-0615	6/17/2015	0.112	90.7	319	0.45	7.82	253	1,060
Bud	Supplementary	FAP	CH-APP-BudHunt-1016	10/5/2016	0.11	95	350	0.41	7.6	270	1,100
Bud	Supplementary	FAP	CH-APP-BudHunt-60617	6/6/2017	0.10	93	310	0.41	7.9	260	1,000
Bud	Supplementary	FAP	CH-CCR-BudHunt-1022	10/21/2022	0.15	92	320	<0.8	7.7 J	260	1,000
Bud	Supplementary	FAP	CH-CCR-BudHunt-0423	04/19/2023	0.11	99	320	<0.8	7.7 J	260	1,100
Bud	Supplementary	FAP	CH-CCR-BudHunt-1023	10/17/2023	0.14	80	120	<0.8	7.7 J	290	1,100
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-0421	4/15/2021	68	780	8,800	7.2	7.1 J	5,700	20,000
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-0422	4/20/2022	59	730	8,200	5.2	7.1 J	5,300	14,000
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-0423	04/25/2023	57	690	6,600	<40	7.2 J	4,800	16,000
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-1023	10/23/2023	58	780	7,000	7.0	7.1 J	4,500	16,000
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-0421	4/15/2021	58	750	7,700	7.1	7.5 J	5,200	17,000
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-0422	4/20/2022	59	740	7,900	6.3	7.5 J	5,100	14,000
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-1022	10/27/2022	51	750	7,500	1.9	7.5 J	5,300	18,000
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-0423	04/25/2023	58	800	6,500	8.2	7.5 J	4,500	16,000
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-1023	10/23/2023	66	820	4,800	3.6	7.4 J	3,400	12,000

**Table D-1
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents							
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
Constituent:					N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L
<i>FAP BTV</i>					1.3	740	5,700	0.8	7.4	5,100	15,000	
<i>FAP GWPS</i>					--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date								
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0421	4/15/2021	29	760	5,200	3.9	7.7 J	3,300	11,000	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0422	4/20/2022	29	790	5,300	3.6	7.5 J	3,300	9,500	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1022	10/27/2022	31	790	4,900	3.3	7.6 J	3,300	13,000	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0423	04/25/2023	31	810	5,200	4.2	7.8 J	3,100	12,000	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1023	10/23/2023	34	810	5,400	4.2	7.5 J	3,400	12,000	
Notes:												
BTV exceedances are shown in grey shaded cells. GWPS exceedance are shown in red text.												
Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.												
Abbreviations and Data Qualifiers:												
< = less than												
BTV = Background Threshold Value												
CCR = Coal Combustion Residual												
degrees C = degrees Celsius												
FAP = Fly Ash Pond												
GWPS = Groundwater Protection Standard												
ID = Identification												
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.												
mg/L = milligrams per liter												
pCi/L = Picocuries per liter												
R = rejected												
su = standard units												
U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.												
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.												

**Table D-2
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

				Appendix III Constituents																		
Constituent:				Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	
Filtered:				N	N	Y	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	
Units:				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
FAP BTW				0.04	0.04	0.04	0.05	0.01	0.004	0.04	0.04	0.02	0.02	0.8	0.02	0.31	0.002	0.005	0.02	0.0014	1.6	
FAP GWFS				0.06	0.01	0.01	2	0.007	0.005	0.1	0.04	0.006	0.006	4	0.015	0.37	0.002	0.1	0.05	0.002	5	
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
M-64A	Background	FAP/BAP	CH-CR-M100-217	2/20/2017	<0.010	0.00087	--	0.036	<0.010	0.00011	0.0018	--	0.0024	--	<0.8	<0.0050	0.26	<0.0020	0.00085	0.00074	<0.0010	0.8
M-64A	Background	FAP/BAP	CH-CR-M64A-217	2/20/2017	<0.010	0.00094	--	0.034	<0.010	<0.0010	0.0021	--	0.0015	--	<0.80	<0.0050	0.27	<0.0020	0.0061	0.00082	<0.0010	<0.6
M-64A	Background	FAP/BAP	CH-CR-FD02-41217	4/12/2017	<0.010	0.0026	--	0.019	<0.010	<0.0010	0.00078	--	0.00082	--	<2.0	<0.0050	0.25	<0.0020	0.0053	<0.0050	<0.0010	0.8
M-64A	Background	FAP/BAP	CH-CR-M64A-41217	4/12/2017	<0.010	0.0026	--	0.019	<0.010	<0.0010	0.0015	--	0.00068	--	<0.80	0.00071	0.25	<0.0020	0.0050	<0.0050	<0.0010	<0.6
M-64A	Background	FAP/BAP	CH-CR-M64A-42517	4/25/2017	<0.010	0.0017	--	0.015	<0.010	<0.0010	<0.0050	--	0.00056	--	<0.80	<0.0050	0.27	<0.0020	0.0050	<0.0050	<0.0010	1.6
M-64A	Background	FAP/BAP	CH-CR-M64A-51817	5/18/2017	<0.010	0.0016	--	0.012	<0.010	<0.0010	<0.0050	--	0.00050	--	<0.80	<0.0050	0.28	<0.0020	0.0042	<0.0050	<0.0010	1.3
M-64A	Background	FAP/BAP	CH-CR-FD01-52417	5/24/2017	<0.010	0.0023	--	0.014	<0.010	<0.0010	0.00063	--	0.00052	--	<0.80	<0.0020	0.27	<0.0020	0.0050	<0.0050	<0.0040	1.1
M-64A	Background	FAP/BAP	CH-CR-M64A-52417	5/24/2017	<0.010	0.0019	--	0.014	<0.010	<0.0010	<0.0050	--	0.00050	--	<0.80	<0.0020	0.27	<0.0020	0.0051	<0.0050	<0.0040	0.4
M-64A	Background	FAP/BAP	CH-CR-M64A-63017	6/30/2017	<0.010	0.0033	--	0.017	<0.010	<0.0020	<0.0050	--	0.0011	--	<0.80	<0.0050	0.25	<0.0020	0.0050	<0.0050	<0.0040	<0.7
M-64A	Background	FAP/BAP	CH-CR-FD01-72717	7/27/2017	<0.020	0.0027	--	0.017	<0.010	<0.0020	<0.010	--	<0.010	--	<0.80	<0.010	0.25	<0.0020	0.0051	<0.010	<0.0020	<0.7
M-64A	Background	FAP/BAP	CH-CR-M64A-72717	7/27/2017	<0.020	0.0028	--	0.017	<0.010	<0.0020	<0.010	--	<0.010	--	<0.80	<0.010	0.25	<0.0020	0.0051	<0.010	<0.0020	<0.7
M-64A	Background	FAP/BAP	CH-CR-M64A-90717	9/7/2017	<0.040	0.0025	--	0.017	<0.010	<0.0040	<0.040	--	<0.020	--	<0.80	<0.020	0.26	<0.0020	0.0059	<0.020	<0.0040	<0.7
M-64A	Background	FAP/BAP	CH-CR-M64A-120817	12/8/2017	--	--	--	--	--	--	--	--	--	--	<0.80	--	--	--	--	--	--	--
M-64A	Background	FAP/BAP	CH-CR-M64A-21518	2/15/2018	<0.020	<0.010	--	0.015	<0.010	<0.0020	0.0022	--	<0.0050	--	<0.80	<0.010	0.27	<0.0020	0.0058	<0.0050	<0.0020	0.966
M-64A	Background	FAP/BAP	CH-CR-M-64A-51918	5/19/2018	<0.020	0.0012	--	0.012	--	<0.0020	<0.020	--	<0.010	--	<0.80	<0.010	0.26	--	0.0055	<0.0050	<0.0020	<0.7
M-64A	Background	FAP/BAP	CH-CR-M-64A-102218	10/22/2018	--	0.0013	--	0.011	--	<0.0010	<0.010	--	<0.0050	--	<0.80	<0.0050	0.25	--	0.0052	<0.0050	<0.0010	--
M-64A	Background	FAP/BAP	*DUP* CH-CR-FD-01-102218	10/22/2018	--	0.0011	--	0.011	--	<0.0010	<0.010	--	<0.0050	--	<2.0	<0.0050	0.25	--	0.0050	<0.0050	<0.0010	--
M-64A	Background	FAP/BAP	CH-CR-M64A-21319	2/13/2019	<0.010	0.00089	--	0.012	<0.010	<0.0010	<0.010	--	<0.0050	--	<0.80	<0.0050	0.29	<0.0020	0.0049	0.00052	<0.0010	<0.6
M-64A	Background	FAP/BAP	CH-CR-M64A-41119	4/11/2019	--	0.00058	--	0.011	--	<0.001	<0.001	--	<0.0050	--	<0.80	<0.0050	0.27	--	0.0050	0.00053	--	--
M-64A	Background	FAP/BAP	CH-CR-M64A-41619	4/16/2019	--	0.00058	--	0.012	--	<0.0010	<0.010	--	<0.0050	--	<0.80	<0.0050	0.25	--	0.0050	0.00078	<0.0010	<0.7
M-64A	Background	FAP/BAP	CH-CR-M64A-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	<0.8	--	--	--	--	--	--	--
M-64A	Background	FAP/BAP	*DUP* CH-CR-FD01-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	<0.8	--	--	--	--	--	--	--
M-64A	Background	FAP/BAP	CH-CR-M64A-102419	10/24/2019	<0.020	0.0018	--	0.013 J	<0.010	<0.0020	<0.020	--	<0.010	--	<0.80	<0.010	0.26	<0.0020	0.0059	<0.010	<0.0020	--
M-64A	Background	FAP/BAP	CH-CR-M64-0520	5/6/2020	--	0.00086	0.00050	0.013	<0.01	<0.001	<0.001	--	<0.005	<0.005	<0.8	<0.005	0.47	--	0.0042	<0.001	--	<0.8
M-64A	Background	FAP/BAP	*DUP* CH-CR-FD06-0520	5/6/2020	<0.001	0.00093	0.012	0.012	<0.001	<0.001	<0.002	--	<0.001	<0.005	<0.8	<0.005	0.47	--	0.0043	<0.001	--	<0.8
M-64A	Background	FAP/BAP	CH-CR-M64-1020	10/24/2020	<0.02 U	0.0036	<0.002 U	0.012	<0.001	<0.002	<0.002	--	0.00025	<0.002	0.28	0.001	0.31	<0.0002	0.0051	0.0044	<0.0002	<0.8
M-64A	Background	FAP/BAP	CH-CR-M64-0421	4/15/2021	<0.002	0.0021	0.0027	0.012	<0.001	<0.002	<0.002	--	0.00021	<0.001	0.21 J	<0.001	0.30	<0.0002	0.0049	0.0022	<0.0002	<0.7
M-64A	Background	FAP/BAP	CH-CR-M64-1021	10/22/2021	0.00013 J	<0.0005 U	0.0015	0.012	<0.001	0.000036 J	0.0005 J	--	0.000091 J	0.38 J	<0.005	0.28	<0.0002	0.0046	0.0002 J	<0.0001	<0.6	
M-64A	Background	FAP/BAP	CH-CR-M64A-0422	4/28/2022	0.000054 J	0.0015	0.0018	0.011	<0.001	<0.001	<0.001	--	<0.005	<0.005	0.34 J	<0.005	0.28	<0.0002	0.0041	0.00075	<0.0001	1.0
M-64A	Background	FAP/BAP	CH-CR-M64A-1023	10/22/2022	<0.001	0.00094	0.00076	0.013	<0.001	<0.001	<0.001	--	<0.005	<0.005	<0.8	<0.005	0.25	<0.0002	0.042	0.00067	<0.0001	<0.6
M-64A	Background	FAP/BAP	CH-CR-M64A-0423	04/17/2023	<0.01	0.0037	<0.005	0.014	<0.001	<0.001	<0.001	--	<0.005	<0.005	<10	<0.005	0.29	<0.0002	0.0044 J	<0.005	<0.001	0.5
M-64A	Background	FAP/BAP	CH-CR-M64A-1023	10/11/2023	<0.01	0.0073	0.0071	0.012	<0.001	<0.001	<0.001	--	<0.005	<0.005	<0.4	<0.005	0.28	<0.0002	<0.005	<0.005	<0.001	0.7
M-50A	Downgradient Boundary	FAP	7792	12/22/2015	<0.025	0.0023	--	0.018	<0.010	<0.0010	<0.0050	--	0.00051	--	2.0	<0.0050	0.51	<0.0020	0.0050	0.0068	<0.0010	<0.7
M-50A	Downgradient Boundary	FAP	7793	12/22/2015	<0.025	0.0022	--	0.016	<0.010	<0.0010	<0.0050	--	<0.0050	--	2.0	<0.0050	0.51	<0.0020	0.0049	0.0066	<0.0010	<0.7
M-50A	Downgradient Boundary	FAP	CH-M-50A-0316	3/9/2016	<0.015	<0.0049	--	0.013	<0.010	<0.0046	<0.007	--	<0.013	--	2.0	<0.0044	0.47	<0.0020	0.0059 J	0.0050 J	<0.0020	<0.5
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-816	5/5/2016	0.00026	0.0025	--	0.011	<0.010	<0.0010	<0.0050	--	0.00051	--	2.2	<0.0050	0.47	<0.0020	0.0056	0.0054	<0.0010	0.7
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-816	8/25/2016	0.00018	0.0025	--	0.0084	<0.010	<0.0010	<0.0050	--	0.00056	--	2.3	<0.0050	0.45	<0.0020	0.0059	0.0049	<0.0010	<0.6
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-916	9/23/2016	<0.0050	0.0024	--	0.0093	<0.010	<0.0010	0.0024	--	0.00084	--	2.1	0.00012	0.50	<0.0020	0.0075	0.0046	0.00013	1.1
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-217	2/21/2017	<0.010	0.0026	--	0.014	<0.010	<0.0010	0.0022	--	0.00090	--	2.1	<0.0050	0.50	<0.0020	0.0091	0.0043	<0.0010	<0.6
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-41317	4/13/2017	<0.010	0.0030	--	0.010	<0.010	<0.0010	0.015	--	0.00093	--	2.0	<0.0050	0.48	<0.0020	0.0083	0.0040	<0.0010	<0.6
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-42617	4/26/2017	<0.010	0.0024	--	0.0084	<0.010	<0.0010	0.0068	--	0.00069	--	2.0	<0.0050	0.48	<0.0020	0.0067	0.0042	<0.0010	<0.6
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-51817	5/18/2017	<0.010	0.0023	--	0.0081	<0.010	<0.0010	0.0048	--	0.00056	--	2.2	<0.0050	0.48	<0.0020	0.0059	0.0037	<0.0010	0.6
M-50A	Downgradient Boundary	FAP	CH-CR-M50A-52417	5/24/2017	<0.010	0.0026	--	0.0085	<0.010	<												

**Table D-2
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

				Appendix IV Constituents																		
Constituent:				Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	
Well ID	Designation	CCR Unit	Sample ID	Sample Date	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	
Units:				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
FAP BTW				0.04	0.04	0.04	0.5	0.01	0.004	0.04	0.04	0.02	0.02	8	0.02	0.31	0.002	0.005	0.02	0.0014	1.6	
FAP GWFS				0.06	0.01	0.01	2	0.01	0.005	0.1	0.006	0.006	0.006	4	0.015	0.37	0.002	0.1	0.05	0.002	5	
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-1317	4/13/2017	<0.010	0.020	--	0.0099	<0.010	<0.0010	0.014	--	<0.0020	--	4.1	<0.0050	0.49	<0.0020	0.038	<0.0020	0.0014	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-42617	4/26/2017	<0.010	0.024	--	0.0096	<0.010	<0.0010	0.0081	--	<0.0050	--	4.6	<0.0010	0.57	<0.0020	0.036	<0.0050	<0.0020	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-51817	5/18/2017	<0.010	0.024	--	0.0096	<0.010	<0.0010	0.0081	--	<0.0050	--	5.0	<0.0020	0.56	<0.0020	0.030	<0.0050	0.0012	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-52417	5/24/2017	<0.010	0.028	--	0.012	<0.010	<0.0010	0.0064	--	<0.0050	--	5.3	<0.0050	0.54	<0.0020	0.036	<0.0050	<0.0010	0.6
M-51A	Downgradient Boundary	FAP	CH-CR-FD02-63017	6/30/2017	<0.010	0.029	--	0.010	<0.010	<0.0010	0.012	--	<0.010	--	5.1	<0.0050	0.52	<0.0020	0.038	<0.010	0.0019	<0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-63017	6/30/2017	<0.010	0.029	--	0.010	<0.010	<0.0010	0.012	--	<0.010	--	5.3	<0.0050	0.52	<0.0020	0.038	<0.010	0.0019	<0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-72717	7/27/2017	<0.020	0.026	--	0.0098	<0.010	<0.0020	0.070	--	<0.0050	--	4.9	<0.0050	0.54	<0.0020	0.038	<0.010	0.0021	<0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-90717	9/7/2017	<0.040	0.035	--	0.0097	<0.010	<0.0040	0.036	--	<0.0050	--	5.7	<0.0020	0.55	<0.0020	0.054	<0.0050	<0.0040	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-120817	12/8/2017	--	--	--	--	--	--	--	--	--	--	5.1	--	--	--	--	--	--	--
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-21418	2/14/2018	<0.020	0.015	--	0.0089	<0.010	<0.0020	0.034	--	0.0010	--	5.4	<0.010	0.49	<0.0020	0.046	<0.0050	<0.0020	0.2
M-51A	Downgradient Boundary	FAP	CH-CR-M-51A-52118	5/21/2018	--	0.022	--	0.010	--	<0.0020	0.040	--	0.0018	--	5.7	<0.010	0.48	--	0.057	<0.010	--	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M-51A-102418	10/24/2018	--	0.032	--	0.0074	--	0.0010	0.021	--	<0.0050	--	5.0	<0.0050	0.46	--	0.09	<0.050	--	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-21319	2/13/2019	<0.010	0.025	--	0.0070	<0.010	<0.0010	0.013	--	<0.0050	--	4.5	<0.0050	0.49	<0.0020	0.082	<0.020	0.0013	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-41119	4/11/2019	--	0.032	--	0.0091	--	<0.002	0.016	--	<0.005	--	5.4	<0.005	0.45	--	0.09	<0.005	--	<0.7
M-51A	Downgradient Boundary	FAP	CCH-CR-M51A-112519	1/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-112519	1/12/2019	--	0.018	--	0.0086	--	<0.0010	<0.010	--	0.00076	--	4.8	<0.0050	0.45	--	0.11	<0.0050	--	--
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-0520	5/8/2020	--	0.015	0.015	0.0091	<0.001	<0.001	0.026	--	0.0013	0.00078	5.6	<0.005	0.65	--	0.090	<0.005	--	<0.8
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-102520	10/25/2020	<0.02 U	0.028	0.027	0.0085	<0.001	0.00017	0.060	--	0.0015	0.0012	5.9	0.00053	0.47	<0.002	0.12	<0.002	0.0019	<0.8
M-51A	Downgradient Boundary	FAP	*DUP CH-CR-FD05-1020	10/25/2020	<0.02 U	0.027	0.025	0.0086	<0.001	0.00013	0.073	--	0.0012	0.0011	6.0	<0.001	0.47	<0.002	0.12	<0.002	0.0019	0.4
M-51A	Downgradient Boundary	FAP	CH-CR-M51-0421	4/15/2021	<0.002	0.023	0.024	0.010	<0.001	<0.002	0.075	--	<0.001	0.00014 J	5.7	<0.001	0.46	<0.002	0.11	<0.001	<0.002	<0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51-1021	10/23/2021	0.0001 J	0.023	0.022	0.0081	<0.001	0.00014	<0.004	--	0.0015 J	0.012	5.7	<0.005	0.45	<0.002	0.14	<0.002	0.0021	0.7
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-0422	4/28/2022	0.000053 J	0.027	0.021	0.0097	<0.001	0.000039 J	0.015	--	0.0022	0.0014	5.6	<0.005	0.43	<0.002	0.11	<0.001	0.0011	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-1022	10/22/2022	<0.001	0.036	0.034	0.0076	<0.001	<0.001	0.010	--	<0.005	<0.005	5.0	<0.005	0.44	<0.002	0.16	<0.005	0.0015	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-0423	04/17/2023	<0.01	0.018	0.023	0.0076	<0.001	<0.01	<0.02	--	0.0022 J	0.0021 J	5.8	<0.005	0.43	<0.002	0.22	0.0067 J	<0.01	<0.6
M-51A	Downgradient Boundary	FAP	CH-CR-M51A-1023	10/17/2023	<0.005	0.032	0.031	0.0077 J	<0.001	<0.005	<0.01	--	<0.005	<0.005	5.6	<0.0025	0.54	<0.002	0.16	<0.005	<0.005	<0.8
MW-65A	Downgradient	FAP	*DUP CH-CR-FD01-12518	12/5/2018	<0.010	0.013 J	--	0.015 J	--	<0.0010	0.016 J	--	0.0038 J	--	3.6 J, UJ	<0.0050	0.76	<0.0020	0.17	0.0020 J	<0.0010	0.9
MW-65A	Downgradient	FAP	CH-CR-MW65A-2518	12/5/2018	<0.010	0.025	--	0.040	--	0.0013	0.035	--	0.0047	--	1.9 J, UJ	<0.0050	0.54	<0.0020	0.059	0.0021	0.0011	0.9
MW-65A	Downgradient	FAP	CH-CR-M65A-21419	2/14/2019	<0.010	0.017	--	0.015	<0.010	<0.0010	0.028	--	0.0033	--	1.7	<0.0050	0.58	<0.0020	0.059	0.0022	<0.0010	<0.6
MW-65A	Downgradient	FAP	CH-CR-M65A-41119	4/11/2019	--	0.018	--	0.016	--	0.00011	0.010	--	0.0036	--	1.9	<0.005	0.52	--	0.067	0.0024	--	--
MW-65A	Downgradient	FAP	CCH-CR-M65A-112619	1/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7
MW-65A	Downgradient	FAP	CH-CR-M65A-112619	1/12/2019	--	<0.020	--	0.017	--	0.00014	0.015	--	0.0032	--	1.7	<0.0050	0.52	--	0.080	<0.020	--	--
MW-65A	Downgradient	FAP	CH-CR-M65-0520	5/8/2020	--	0.016	0.017	0.015	<0.001	0.00010	0.052	--	0.0033	0.0026	1.8	<0.005	0.67	--	0.065	0.0017	--	<0.8
MW-65A	Downgradient	FAP	CH-CR-M65-1020	10/25/2020	<0.02 U	0.064	0.049	0.024	<0.001	<0.002	0.019	--	0.0039	0.0032	2.6	<0.001	0.57	<0.002	0.22	0.0049	<0.002 U	<0.8
MW-65A	Downgradient	FAP	CH-CR-M65-0421	4/14/2021	<0.002	0.038	0.047	0.017	<0.001	<0.002	0.016	--	0.0032	0.0030	2.4	<0.001	0.54	<0.002	0.076	0.0016	<0.002	<0.7
MW-65A	Downgradient	FAP	CH-CR-M65-1021	10/22/2021	0.000085 J	<0.0024 U	0.026	0.022	<0.001	0.000083 J	0.041	--	0.0025	0.0023	2.0	0.00037 J	0.59	<0.002	0.12	0.0081	0.00021 J	1.3
MW-65A	Downgradient	FAP	CH-CR-M65A-0422	4/26/2022	0.000049 J	0.039	0.040	0.012	<0.001	0.000046 J	0.035	--	0.0025	0.0024	1.7	<0.005	0.50	<0.002	0.091	0.001	0.00018 J	<0.6
MW-65A	Downgradient	FAP	CH-CR-M65A-1022	10/15/2022	<0.001	0.017	0.013	0.021	<0.001	<0.001	0.061	--	0.0076	0.0070	2.3	<0.005	0.51	<0.002	0.12	0.0021	<0.001	<0.6
MW-65A	Downgradient	FAP	CH-CR-M65A-0423	04/15/2023	<0.01	<0.005	<0.005	0.014	<0.001	<0.01	<0.01	--	0.0026 J	0.0025 J	3.0	<0.005	0.58	<0.002	0.11	0.0067	0.00014 J	1.3
MW-65A	Downgradient	FAP	CH-CR-M65A-1023	10/16/2023	<0.005	0.040	0.038	0.021 J	<0.001	<0.005	<0.005	--	<0.0025	<0.0025	3.0	<0.0025	0.73	<0.002	0.18	<0.0025	<0.005	<0.8
MW-66A	Downgradient	FAP	CH-CR-MW66A-2518	12/5/2018	<0.010	0.034	--	0.095	--	0.00029	0.098	--	0.0026	--	0.93 J, UJ	0.040	0.51	<0.0020	0.016	0.031	0.0015	<0.6
MW-66A	Downgradient	FAP	CH-CR-M66A-21419	2/14/2019	<0.010	0.021	--	0.016	<0.010	<0.0010	0.012	--	0.0017	--	1.1	<0.0050	0.55	<0.0020	0.014	0.027	0.0012	<0.6
MW-66A	Downgradient	FAP	CH-CR-M66A-41119	4/11/2019	--	0.025	--	0.016	--	0.00028	0.21	--	0.0017	--	1.4	<0.005	0.50	--	0.039	0.027	--	--
MW-66A	Downgradient	FAP	*DUP CH-CR-FD01-112619	1/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7
MW-66A	Downgradient	FAP	*DUP CH-CR-FD01-112619	1/12/2019	--	<0.020	--	0.016 J	--	0.00028	0.0026 J	--	<0.0020	--	1.1	<0.0050	0.48	--	0.015	0.026 J	--	--
MW-66A	Downgradient	FAP	CCH-CR-M66A-112619	1/12/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7
MW-66A	Downgradient	FAP	CH-CR-M66A-112619	1/12/2019	--	0.039	--	0.022 J	--	0.00038	0.016 J	--	<0.0020	--	1.1	0.00061	0.48	--	0.016	0.060 J	--	--
MW-66A	Downgradient	FAP	CH-CR-M66-0520	5/8/2020	--	0.017	0.017	0.015	<0.001	0.00027	0.016	--	0.0014	0.0010	1.1	<0.005	0.68	--	0.014	0.027	--	<0.8
MW-66A	Downgradient	FAP	CH-CR-M66-1020	10/25/2020	<0.02 U	0.019 J	0.0051 J	0.013	<0.001	0.00048	0.024	--	0.0018	0.0018	1.4	<0.001	0.49	<0.002	0.017	0.024	0.00013	<0.8
MW-66A	Downgradient	FAP	CH-CR-M66-1021	4/15/2021	<0.002	0.030	0.040	0.023	<0.001	<0.002	0.027	--	0.0017	0.0014	1.6	<0.001	0.54	<0.002	0.017	0.017	<0.002	<0.7
MW-66A	Downgradient	FAP	CH-CR-M66-0422	10/24/2021	0.000094 J	<0.00097 U	0.012	0.018	<0.001	0.0003	0.012	--	0.0015	0.0012	1.3	0.00029 J	0.51	<0				

**Table D-2
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

				Appendix IV Constituents																						
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Constituent:	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium			
					Filtered:	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			FAP BTW			0.004	0.004	0.004	0.05	0.007	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.31	0.0002	0.0061	0.002	0.0014	1.6			
			FAP GWFS			0.006	0.01	0.01	2	0.007	0.005	0.1	0.004	0.006	0.006	4	0.015	0.37	0.002	0.1	0.05	0.002	5			
W-123	Downgradient Boundary	FAP	CH-COR-W123-217	2/20/2017		<0.0010	0.0017	--	0.0094	<0.0010	<0.0010	0.13	--	0.0014	--	<8.0	<0.0050	0.66	<0.0020	0.34	0.0031	<0.0010	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-41317	4/13/2017		<0.0010	0.0020	--	0.010	<0.0010	<0.0010	0.045	--	0.0014	--	4.0	<0.0050	0.59	<0.0020	0.36	0.0034	<0.0010	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-42617	4/26/2017		<0.0010	0.0017	--	0.010	<0.0010	<0.0010	0.016	--	0.0014	--	3.5	<0.0010	0.64	<0.0020	0.35	0.0030	<0.0020	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-52217	5/22/2017		<0.0010	0.0014	--	0.0095	<0.0010	<0.0010	0.099	--	0.0012	--	3.8	<0.0050	0.65	<0.0020	0.30	0.0032	<0.0010	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-52417	5/24/2017		<0.0010	0.0020	--	0.010	<0.0010	<0.0010	0.016	--	0.0015	--	3.6	<0.0020	0.68	<0.0020	0.35	0.0046	<0.0040	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-63017	6/30/2017		<0.0010	0.0020	--	0.011	<0.0010	<0.0010	0.080	--	0.0013	--	3.8	<0.0050	0.63	<0.0020	0.33	0.0046	<0.0010	<0.7			
W-123	Downgradient Boundary	FAP	CH-COR-W123-72717	7/27/2017		<0.0020	0.0015	--	0.010	<0.0010	<0.0020	0.046	--	0.0017	--	3.7	<0.0010	0.66	<0.0020	0.33	0.0043	<0.0020	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-90717	9/7/2017		<0.0040	<0.0020	--	0.011	<0.0010	<0.0040	0.097	--	0.0022	--	3.7	<0.0020	0.70	<0.0020	0.36	0.0045	<0.0040	<0.7			
W-123	Downgradient Boundary	FAP	CH-COR-W123-120817	12/8/2017		--	--	--	--	<0.0020	--	--	--	--	--	4.1	--	--	--	--	--	--	--			
W-123	Downgradient Boundary	FAP	CH-COR-W123-12418	12/14/2018		<0.0020	0.0018	--	0.010	<0.0010	<0.0020	0.12	--	0.0021	--	4.2	<0.0010	0.63	<0.0020	0.37	0.0035	<0.0020	0.5			
W-123	Downgradient Boundary	FAP	CH-COR-W123-12418	5/21/2018		--	0.0030	--	0.011	--	<0.0020	0.084	--	<0.0020	--	4.3	<0.0010	0.63	--	0.38	0.0058	--	0.8			
W-123	Downgradient Boundary	FAP	*DUP* CH-COR-FD-02-102418	10/24/2018		--	0.0027	--	0.0092	--	<0.0010	0.045	--	0.0015	--	3.9	<0.0050	0.65	--	0.36	0.0056	--	<0.7			
W-123	Downgradient Boundary	FAP	CH-COR-W123-102418	10/24/2018		--	0.0026	--	0.0092	--	<0.0010	0.043	--	0.0016	--	4.0	<0.0050	0.65	--	0.37	0.0059	--	<0.6			
W-123	Downgradient Boundary	FAP	CH-COR-W123-21319	2/13/2019		<0.0010	0.0024	--	0.010	<0.0010	<0.0010	0.12	--	0.0018	--	3.7	<0.0050	0.75	<0.0020	0.37	0.0063	<0.0010	<0.6			
W-123	Downgradient Boundary	FAP	*DUP* CH-COR-FD02-41119	4/11/2019		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7			
W-123	Downgradient Boundary	FAP	CH-COR-W123-41119	4/11/2019		--	0.0019	--	0.011	--	<0.0001	0.097	--	0.0019	--	3.9	<0.0005	0.67	--	0.41	0.0053	--	<0.7			
W-123	Downgradient Boundary	FAP	*DUP* CH-COR-FD02-8119	8/1/2019		--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--			
W-123	Downgradient Boundary	FAP	CH-COR-W123-112519	11/25/2019		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.7			
W-123	Downgradient Boundary	FAP	CH-COR-W123-112519	11/25/2019		--	0.0023	--	0.0097	--	<0.0010	0.14	--	0.0026	--	3.6	<0.0050	0.66	--	0.41	0.0052	--	<0.8			
W-123	Downgradient Boundary	FAP	CH-COR-W123-0520	5/6/2020		--	0.0012	0.0015	0.011	<0.001	<0.001	0.076	--	0.0030	0.0023	4.8	<0.0005	0.63	--	0.30	0.0027	--	<0.8			
W-123	Downgradient Boundary	FAP	CH-COR-W123-1020	10/26/2020		0.0042	0.0056	0.0038	0.021	<0.001	0.00024	0.037	--	0.0043	0.0021	3.6	0.0015	0.62	<0.0002	0.66	0.0081	0.00039	<0.8			
W-123	Downgradient Boundary	FAP	CH-COR-W123-0421	4/15/2021		0.0012 J	0.0046	0.0045	0.013	<0.001	<0.0002	0.23	--	0.0018	0.0013	4.7	0.0083	0.61	<0.0002	0.34	0.0029	<0.0002	<0.7			
W-123R	Downgradient Boundary	FAP	CH-DEV-W123R-0621	6/5/2021		<0.001 U	0.0048	--	0.016	<0.001	<0.001 U	0.00097 J	--	0.0036	--	5.0	0.0012	0.48	--	0.35	0.0015	0.00024	--			
W-123R	Downgradient Boundary	FAP	CH-ABREP-W123R-0621	6/15/2021		--	0.0048	--	--	--	--	--	--	0.0037	--	4.1	--	0.52	--	0.24	--	--	--			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-0821	8/3/2021		<0.001 U	0.0058	0.0061	0.012	<0.001	0.00077 J	0.001	--	0.0036	0.0034	5.2	<0.0005	0.52	<0.0002	0.24	0.0010	0.00022	<0.7			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-1021	10/23/2021		0.0002 J	0.0036	0.0047	0.011	<0.001	0.000057 J	0.0015	--	0.0035	0.0039	5.6	0.00028 J	0.51	<0.0002	0.22	0.00071	0.00026	<0.6			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-0422	4/28/2022		0.000080 J	0.0058	0.0048	0.0097	<0.001	<0.0001	0.011	--	0.0037	0.0041	5.9	<0.0005	0.52	<0.0002	0.21	0.0014	0.00023	<0.6			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-1022	4/28/2022		<0.02	0.00415 J	0.00336 J	0.00979 J	<0.0025	<0.0025	<0.02	--	0.00711	0.00745	5.286 J	<0.005	0.459	<0.001	0.209	<0.0025	<0.005	<0.6			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-1022	10/22/2022		<0.001	0.0039	0.0043	0.010	<0.001	<0.001	<0.001	--	0.0034	0.0034	5.9	<0.0005	0.47	<0.0002	0.27	<0.0005	0.00022 J	<0.6			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-0423	04/17/2023		<0.01	<0.005	<0.005	0.012	<0.001	<0.001	<0.01	--	0.0031 J	0.004 J	5.9	<0.0005	0.43	<0.0002	0.27	<0.0005	0.00024 J	0.6			
W-123R	Downgradient Boundary	FAP	CH-COR-W123R-1023	10/11/2023		<0.01	0.011	0.011	0.011	<0.001	<0.001	<0.01	--	<0.005	<0.005	5.4	<0.0005	0.5	<0.0002	0.15	<0.0005	<0.001	1.0			
EW-01	Extraction Well	FAP	CH-COR-EW01-1023	10/23/2023		<0.005	0.0051	0.0042	0.012	<0.001	<0.0005	<0.005	--	<0.0025	0.0038	<0.4	<0.0025	0.55	<0.0002	0.22	<0.0025	<0.0005	<0.7			
EW-02	Extraction Well	FAP	EW02-018521	1/8/2021		--	0.0034	--	--	--	--	--	--	0.0011	--	1.6	--	--	--	0.038	--	--	--			
EW-02	Extraction Well	FAP	CH-COR-EW02-1023	10/23/2023		<0.005	0.0049	0.0045	0.011	<0.001	<0.0005	<0.005	--	<0.0025	<0.0025	3.3	<0.0025	0.64	<0.0002	0.25	<0.0025	<0.0005	<0.7			
EW-03	Extraction Well	FAP	CH-COR-EW03-1023	10/23/2023		<0.005	0.005	0.0042	0.0096	<0.001	<0.0005	<0.005	--	<0.0025	<0.0025	1.7	<0.0025	0.65	<0.0002	0.16	0.008	<0.0005	<0.7			
EW-04	Extraction Well	FAP	EW04-010521	1/5/2021		--	0.0043	--	--	--	--	--	--	0.0024	--	3.9	--	0.43	--	0.48	--	--	--			
EW-04	Extraction Well	FAP	CH-COR-EW04-1023	10/23/2023		<0.005	0.0070	0.0073	0.011	<0.001	<0.0005	<0.005	--	0.0032	0.0035	4.3	<0.0025	0.44	<0.0002	0.39	<0.0025	<0.0005	<0.7			
GSX-1R	Extraction Well	FAP	CH-COR-GSX1R-0621	6/28/2021		--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--			
GSX-1R	Extraction Well	FAP	CH-COR-GSX1R-0621	6/28/2021		--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--			
GSX-1R	Extraction Well	FAP	CH-COR-GSX1R-0621	6/28/2021		--	--	--	--	--	--	--	--	--	--	2.5	--	--	--	--	--	--	--			
GSX-1R	Extraction Well	FAP	CH-COR-GSX1R-0821	8/3/2021		<0.001 U	0.0057	--	0.012	<0.001	0.00011	0.00060 J	--	0.0020	--	2.8	<0.0005	0.52	<0.0002	0.61	0.0015	<0.0001	<0.6			
GSX-1R	Extraction Well	FAP	CH-COR-GSX1R-1023	10/23/2023		<0.005	0.0045	0.0044	0.0099	<0.001	<0.0005	<0.005	--	0.0032	0.0031	2.6	<0.0025	0.52	<0.0002	0.5	<0.0025	<0.0005	<0.7			
M-43A	Supplementary	FAP	CH-COR-M43A-1216	12/21/2016		<0.0010	0.0046	--	0.025	<0.0010	<0.0010	0.0080	--	0.0069	--	<0.80	<0.0050	0.20	<0.0020	0.0027	<0.0050	<0.0010	--			
M-43A	Supplementary	FAP	CH-COR-M43A-1216	12/21/2016		--	--	--	--	--	--	--	--	--	--	<0.80	--	--	--	--	--	--	--			
M-43A	Supplementary	FAP	CH-COR-M43-0421	4/14/2021		0.00013 J	0.0031	0.0036	0.018	<0.001	<0.															

**Table D-2
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents																		
Constituent:					Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	
Filtered:					N	N	Y	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
FAP BTW					0.04	0.04	0.04	0.05	0.07	0.004	0.04	0.04	0.02	0.02	0.8	0.015	0.37	0.0002	0.0001	0.002	0.0014	1.6	
FAP GWFS					0.06	0.01	0.01	2	0.004	0.005	0.1	0.1	0.006	0.006	4	0.015	0.37	0.002	0.1	0.05	0.002	5	
Well ID	Designation	CCR Unit	Sample ID	Sample Date																			
M-44D	Supplementary	FAP	CH-CGR-M44D-0423	04/13/2023	<0.01	<0.005	--	0.021	<0.001	<0.001	<0.01	--	<0.005	--	<0.8	<0.005	0.050	<0.0002	<0.005	<0.005	<0.001	2.7	
M-44D	Supplementary	FAP	CH-CGR-M44D-1023	11/21/2023	<0.001	0.0019	--	0.029	<0.001	<0.001	<0.001	--	<0.005	--	<0.8	<0.0005	<0.05	<0.0002	0.0022	<0.01	<0.001	4.6	
M-44D	Supplementary	FAP	CH-CGR-FD05-1023	11/21/2023	<0.001	0.0018	--	0.027	<0.001	<0.001	<0.001	--	<0.005	--	<0.8	<0.0005	<0.05	<0.0002	0.0021	<0.01	<0.001	4.1	
M-45A	Supplementary	FAP	CH-M-45A-0913	9/17/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-45A	Supplementary	FAP	CH-M-45A-0913_C29829-8	9/17/2013	<0.0060	<0.010	--	<0.20	<0.0050	<0.0020	<0.10	--	--	--	1.0	<0.010	--	<0.0020	--	<0.010	--		
M-45A	Supplementary	FAP	CH-M-45A-1113	11/21/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-45A	Supplementary	FAP	CH-M-45A-C31100-6	11/21/2013	<0.0060	<0.010	--	<0.20	<0.0050	<0.0020	<0.10	--	--	--	0.67	<0.010	--	<0.0020	--	<0.010	--		
M-45A	Supplementary	FAP	CH-M-45A-0314	3/28/2014	<0.006	<0.01	--	<0.2	<0.015	<0.002	<0.01	--	--	--	0.83	<0.01	--	<0.0002	--	<0.01	--		
M-45A	Supplementary	FAP	CH-M-45A-0614	6/10/2014	<0.006	<0.01	--	<0.2	<0.005	<0.002	<0.01	--	--	--	0.90	<0.01	--	<0.0002	--	<0.01	<0.0005		
M-45A	Supplementary	FAP	CH-M-45A-0915	6/16/2015	<0.006	<0.01	--	<0.2	<0.005	<0.002	<0.01	--	--	--	0.90	<0.01	--	<0.0002	--	<0.01	<0.0005		
M-45A	Supplementary	FAP	CH-CGR-M45A-1216	12/21/2016	<0.0010	0.00066	--	0.017	<0.010	<0.0010	0.0013	--	0.0014	--	0.76	<0.0050	<0.20	<0.0020	0.0030	<0.0002	<0.0010	--	
M-45A	Supplementary	FAP	CH-CGR-M45A-1216	12/21/2016	--	--	--	--	--	--	--	--	--	--	0.78	--	--	--	--	--	--	--	
M-45A	Supplementary	FAP	CH-CGR-M45-0421	4/14/2021	<0.002	0.0036	--	0.014	<0.001	<0.002	<0.002	--	0.00095 J	--	0.65 J	<0.001	0.20	<0.0002	0.016	0.00082 J	<0.0002	<0.7	
M-45A	Supplementary	FAP	CH-CGR-M45-0422	10/22/2021	0.00049 J	0.0032	--	0.017	<0.001	<0.001	<0.001	--	0.0011	--	0.57 J	<0.0005	0.20	<0.0002	0.0039	0.00052	0.000057 J	0.7	
M-45A	Supplementary	FAP	CH-CGR-M45A-0422	4/26/2022	<0.0047	0.0047	--	0.013	<0.001	<0.001	<0.001	--	0.0006	--	0.64 J	<0.0005	0.20	<0.0002	0.0032	0.00029 J	<0.0001	0.7	
M-45A	Supplementary	FAP	CH-CGR-M45A-1022	10/21/2022	<0.001	0.0033	--	0.012	0.0088	<0.001	<0.001	--	0.00069	--	<0.8	<0.0005	0.050	<0.0002	0.0028	<0.0005	<0.001	<0.6	
M-45A	Supplementary	FAP	CH-CGR-M45A-0423	04/15/2023	<0.01	0.0045	--	0.013	<0.001	<0.001	<0.01	--	0.00081 J	--	<4	<0.0005	0.050	<0.0002	0.0028 J	0.0004	0.00015 J	0.9	
M-45A	Supplementary	FAP	CH-CGR-M45A-1023	10/17/2023	<0.005	0.0045	--	0.013 J	<0.001	<0.005	<0.005	--	<0.0025	--	<0.8	<0.0025	0.27	<0.0002	0.0029	<0.0025	<0.0005	0.6	
M-46A	Supplementary	FAP	CCH-CGR-M46A-112619	11/26/2019	--	0.0042	--	0.037	--	<0.0010	<0.040	--	<0.0020	--	<0.80	--	0.0052	0.23	--	0.026	--	1.5	
M-46A	Supplementary	FAP	CH-CGR-M46A-112619	11/26/2019	--	0.0013	0.0011	0.031	<0.001	<0.001	0.0010	--	<0.0001	0.00079	<0.80	0.00052	0.23	--	0.026	<0.0020	--	--	
M-46A	Supplementary	FAP	CH-CGR-M46-0520	5/5/2020	<0.02 U	0.0038	0.0039	0.028	<0.001	<0.002	0.0046	--	0.0015	0.0016	0.51	<0.001	0.25	<0.0002	0.0093	0.0047	<0.0002 U	<0.8	
M-46A	Supplementary	FAP	CH-CGR-M46-1020	10/25/2020	<0.002	0.0038	0.0039	0.028	<0.001	<0.002	0.0046	--	0.0015	0.0016	0.51	<0.001	0.25	<0.0002	0.0093	0.0047	<0.0002 U	<0.8	
M-46A	Supplementary	FAP	CH-CGR-M46-0421	4/14/2021	<0.002	0.0038	0.0039	0.028	<0.001	<0.002	0.0046	--	0.0015	0.0016	0.51	<0.001	0.25	<0.0002	0.0093	0.0047	<0.0002 U	<0.8	
M-46A	Supplementary	FAP	CH-CGR-M46-1021	10/22/2021	<0.001 J	0.0042	0.0027	0.027	<0.001	0.000051 J	0.033	--	0.0010	0.0015	0.97	<0.0005	0.24	<0.0002	0.010	0.00062	0.000052 J	0.8	
M-46A	Supplementary	FAP	CH-CGR-M46A-0422	4/27/2022	0.000061 J	0.0033	0.0037	0.026	<0.001	0.000062 J	0.0033	--	0.00069	0.00064	0.74 J	<0.0005	0.25	<0.0002	0.0066	0.0012	0.000015 J	1.4	
M-46A	Supplementary	FAP	CH-CGR-M46A-1022	10/21/2022	<0.001	0.00096	0.0012	0.024	0.0012	<0.001	0.003	--	0.0008	0.0007	<0.8	<0.0005	0.22	<0.0002	0.0065	0.0013	<0.0001	<0.6	
M-46A	Supplementary	FAP	CH-CGR-M46A-0423	04/15/2023	<0.01	0.0031 J	<0.005	0.022	<0.001	<0.001	<0.01	--	0.0011 J	0.002 J	<4	<0.0005	0.28	<0.0002	0.0098	0.0013 J	0.00013 J	0.9	
M-46A	Supplementary	FAP	CH-CGR-M46A-1023	10/18/2023	<0.005	0.0063	0.0036	0.02 J	<0.001	<0.005	0.0085	--	<0.0025	<0.0025	1.0	<0.0025	0.35	<0.0002	0.0091	<0.0025	<0.0005	2.1	
M-63A	Supplementary	FAP	CH-M-63A-0316	3/10/2016	<0.0025	0.0086	--	0.039	<0.0010	<0.0010	<0.0050	--	0.00099	--	<0.40	<0.0050	<0.20	<0.0020	0.011	0.0063	0.00019	<0.7	
M-63A	Supplementary	FAP	CH-M-63A-0316	3/10/2016	<0.050	<0.010	--	0.030	<0.0010	<0.0020	<0.010	--	<0.010	--	<0.40	<0.010	<0.20	<0.0020	<0.010	<0.010	<0.0020	<0.6	
M-63A	Supplementary	FAP	CH-CGR-M63A-050516	5/5/2016	0.00015	0.00083	--	0.028	<0.0010	<0.0010	<0.0050	--	0.0018	--	<0.40	<0.0050	<0.20	<0.0020	0.0021	<0.00050	<0.0010	<0.8	
M-63A	Supplementary	FAP	CH-CGR-M63A-8106	8/24/2016	0.00053	0.00063	--	0.029	<0.0010	<0.0010	<0.0050	--	<0.0050	--	0.46	<0.0050	<0.20	<0.0020	0.0039	0.0050	<0.0010	1.8	
M-63A	Supplementary	FAP	CH-CGR-M63A-8106	8/24/2016	0.00037	0.00057	--	0.031	<0.0010	<0.0010	<0.0050	--	<0.0050	--	0.40	<0.0050	<0.20	<0.0020	0.0044	0.0060	<0.0010	<0.6	
M-63A	Supplementary	FAP	CH-CGR-M63A-8106	8/24/2016	0.00037	0.00057	--	0.031	<0.0010	<0.0010	<0.0050	--	<0.0050	--	0.40	<0.0050	<0.20	<0.0020	0.0044	0.0060	<0.0010	<0.6	
M-63A	Supplementary	FAP	CH-CGR-M63A-8106	9/21/2016	<0.0050	0.00057	--	0.025	<0.0010	<0.0010	<0.0050	--	0.00022	--	0.40	<0.0010	<0.20	<0.0020	0.0039	0.0029	<0.0010	0.8	
M-63A	Supplementary	FAP	CH-CGR-M63A-8106	9/21/2016	0.00057	0.00057	--	0.025	<0.0010	<0.0010	<0.0050	--	0.00022	--	0.40	<0.0010	<0.20	<0.0020	0.0039	0.0029	<0.0010	0.8	
M-63A	Supplementary	FAP	CH-APP-M63A-1016	10/4/2016	--	--	--	--	<0.0010	--	<0.0050	--	--	--	0.40	--	--	--	--	--	<0.0010	--	
M-63A	Supplementary	FAP	CH-CGR-M63A-217	2/20/2017	--	--	--	--	--	--	--	--	--	--	0.40	--	--	--	--	--	<0.0010	--	
M-63A	Supplementary	FAP	CH-CGR-M63A-41317	4/13/2017	<0.0010	0.00079	--	0.025	<0.0010	<0.0010	<0.0050	--	0.0017	--	0.40	<0.0050	<0.20	<0.0020	0.0022	<0.00050	<0.0010	<0.6	
M-63A	Supplementary	FAP	CH-CGR-M63A-41317	4/13/2017	<0.0010	0.00079	--	0.025	<0.0010	<0.0010	<0.0050	--	0.0017	--	0.40	<0.0050	<0.20	<0.0020	0.0022	<0.00050	<0.0010	<0.6	
M-63A	Supplementary	FAP	CH-CGR-M63A-42617	4/26/2017	<0.0010	0.00073	--	0.026	<0.0010	<0.0010	0.0018	--	0.0018	--	0.40	<0.0050	<0.20	<0.0020	0.0022	<0.00050	<0.0010	0.8	
M-63A	Supplementary	FAP	CH-CGR-M63A-42617	4/26/2017	<0.0010	0.00073	--	0.026	<0.0010	<0.0010	0.0018	--	0.0018	--	0.40	<0.0050	<0.20	<0.0020	0.0022	<0.00050	<0.0010	0.8	
M-63A	Supplementary	FAP	CH-APP-M63A-52217	5/22/2017	--	--	--	--	<0.0010	<0.0010	<0.0050	--	--	--	0.40	<0.0050	--	--	--	--	<0.0010	--	
M-63A	Supplementary	FAP	CH-CGR-M63A-52217	5/22/2017	<0.0010	0.00062	--	0.024	<0.0010	<0.0010	<0.0050	--	0.0012	--	0.40	<0.0050	<0.20	<0.0020</					

**Table D-2
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

					Appendix IV Constituents																		
Constituent:					Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	
Filtered:					N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
FAP BTW					0.004	0.004	0.004	0.05	0.001	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.31	0.0002	0.0061	0.002	0.0014	1.8	
FAP GWPS					0.006	0.01	0.01	2	0.004	0.005	0.1	0.1	0.006	0.006	4	0.015	0.31	0.002	0.1	0.05	0.002	5	
Well ID	Designation	CCR Unit	Sample ID	Sample Date																			
FAP	Supplementary	FAP	CH-CCR-FAP-1022	10/26/2022																			
FAP	Supplementary	FAP	CH-CCR-FAP-0423	04/25/2023	0.057 J	0.38	0.25	0.25	<0.01	<0.0004	0.0061	--	0.019	0.016	94	<0.0005	6.4	<0.0002	0.88	0.12	0.0028	1.7	
FAP	Supplementary	FAP	CH-CCR-FAP-1023	10/13/2023	0.052 J	0.54	0.069	0.17	<0.01	<0.02	<0.1	--	0.023	0.021	<400	<0.02	10	<0.0002	0.83	0.13	<0.02	<0.6	
Bud	Supplementary	FAP	Bud Hunt	10/8/2012	--	--	--	--	<0.0050	--	<0.010	--	--	--	0.80	<0.010	--	--	--	--	<0.0015	--	
Bud	Supplementary	FAP	CH-BUD-0613	6/5/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.001	--
Bud	Supplementary	FAP	CH-BUD-0613_C28117-4	6/5/2013	--	--	--	--	<0.0050	--	<0.010	--	--	--	0.44	<0.010	--	--	--	--	--	--	
Bud	Supplementary	FAP	CH-BUD-0614	6/11/2014	--	--	--	--	<0.005	--	<0.01	--	--	--	0.49	<0.01	--	--	--	--	--	--	
Bud	Supplementary	FAP	CH-BUD-0615	6/17/2015	--	--	--	--	<0.005	--	<0.01	--	--	--	0.45	<0.01	--	--	--	--	--	<0.0025	
Bud	Supplementary	FAP	CH-LAPP-BudHunt-1016	10/5/2016	--	--	--	0.013	<0.00010	<0.00010	0.0016	--	--	--	0.41	0.00097	--	--	--	--	--	<0.00010	
Bud	Supplementary	FAP	CH-LAPP-BudHunt-60617	6/6/2017	--	--	--	--	<0.0010	0.00010	0.00068	--	--	--	0.41	0.00060	--	--	--	--	--	<0.00010	
Bud	Supplementary	FAP	CH-CCR-BudHunt-1022	10/21/2022	<0.001	0.00063	0.00087	0.012	<0.001	<0.0001	<0.001	--	<0.0005	<0.0005	<0.8	0.0024	0.027	<0.0002	0.0018	0.0020	<0.0001	<0.6	
Bud	Supplementary	FAP	CH-CCR-BudHunt-0423	04/19/2023	<0.01	0.0025	<0.005	0.012	<0.001	<0.001	<0.01	--	<0.005	<0.005	<0.8	<0.005	<0.02	<0.0002	<0.005	<0.005	<0.001	<0.6	
Bud	Supplementary	FAP	CH-CCR-BudHunt-1023	10/17/2023	<0.005	0.0026	0.0027	0.012 J	<0.001	<0.0005	<0.005	--	<0.0025	<0.0025	<0.8	<0.0025	0.058	<0.0002	<0.0025	<0.0025	<0.0005	<0.8	
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-0421	4/15/2021	0.00030 J	0.080	--	0.0066	<0.001	<0.0002	0.010	--	<0.002	--	7.2	0.023	0.86	<0.0002	0.039	<0.002	<0.0002	<0.8	
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-0422	4/20/2022	0.00012 J	0.024	0.015	0.0049	<0.001	<0.0001 U	0.0023	--	0.0019	0.0019	5.2	0.0025	0.71	<0.0002	0.029	<0.005	<0.0001 U	<0.6	
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-0423	04/25/2023	<0.01	0.019	0.017	0.0050	<0.001	<0.002	0.0032 J	--	0.0029	0.0025	<40	<0.002	0.69	<0.0002	0.035	<0.01	<0.002	--	
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-1023	10/23/2023	<0.01	0.023	0.016	0.0061	<0.001	<0.001	<0.01	--	<0.005	<0.005	7.0	<0.005	0.57	<0.0002	0.055	<0.005 UJ	<0.001	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-0421	4/15/2021	0.00015 J	0.0076	--	0.0086	<0.001	<0.0002	0.0038	--	0.0013	--	7.1	0.019	0.73	<0.0002	0.038	0.00086 J	<0.0002	<0.8	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-0422	4/20/2022	0.00016 J	0.0091	0.0033	0.011	<0.001	<0.0002 U	0.0071	--	0.0027	0.0046	6.3	0.0013	0.74	<0.0002	0.036	0.00080 J	<0.0001	<0.6	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-1022	10/27/2022	<0.001	0.0044 J	0.0039	0.021	0.0015	0.00027	0.0078 J	--	0.0017 J	0.0015	1.9	<0.0005	0.59	<0.0002	0.072	<0.002	0.00014	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-0423	04/25/2023	<0.01	0.0073	0.0068	0.0099	<0.001	<0.002	0.0033 J	--	0.0027	0.0026	8.2	<0.002	0.71	<0.0002	0.028	<0.01	<0.002	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-1023	10/23/2023	<0.005	0.0088	0.0091	0.014	<0.001	<0.0005	<0.005	--	<0.0025	<0.0025	3.6	<0.0025	0.59	<0.0002	0.080	<0.0025	<0.0005	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0421	4/15/2021	<0.002 U	0.0029	--	0.010 J	<0.001	<0.0002	0.0012 J	--	0.0042	--	3.9	<0.001	0.49	<0.0002	0.44	0.0029	<0.0002	<0.8	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0422	4/20/2022	0.00006 J	0.0032	0.022	0.0098	<0.001	<0.0001 U	0.0010 J	--	0.0046	0.00066	3.6	<0.0005	0.48	<0.0002	0.43	0.0023	0.00014	<0.6	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1022	10/27/2022	<0.001	0.0013	0.00098	0.011	<0.001	0.00012	0.0085	--	0.0052	0.0050	3.3	<0.0005	0.45	<0.0002	0.41	<0.002	0.00049	1.3	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0423	04/25/2023	<0.01	<0.002	0.0013 J	0.0095	<0.001	<0.002	<0.01	--	0.0050	0.0053	4.2	<0.002	0.47	<0.0002	0.88	<0.01	<0.002	1.3	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1023	10/23/2023	<0.005	0.0045	0.0044	0.011	<0.001	<0.0005	<0.005	--	0.0052	0.0052	4.2	<0.0025	0.42	<0.0002	0.35	<0.0025	<0.0005	<0.7	

Notes:
 BTW exceedances are shown in grey shaded cells. GWPS exceedance are shown in red text.
 Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/sample IDs on the same date.

Abbreviations and Data Qualifiers:

- < = less than
- BTW = Background Threshold Value
- CCR = Coal Combustion Residual
- degrees C = degrees Celsius
- FAP = Fly Ash Pond
- GWPS = Groundwater Protection Standard
- ID = Identification
- J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- mg/L = milligrams per liter
- pCi/L = PicoCuries per liter
- R = rejected
- su = standard units
- U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-3
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

				Additional Analyses																										
Constituent:				Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Disolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon	Uranium		
Filtered:				N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N		
Units:				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
FAP BTU				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
FAP GWPS				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	520	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	17	0.8	<0.6	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M100-217	2/20/2017	520	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	17	0.8	<0.6	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-217	2/20/2017	520	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	17	<0.4	<0.6	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-FD02-41217	4/12/2017	520	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	14	<0.4	0.8	--	3,700	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41217	4/12/2017	520	<6.0	<6.0	--	--	--	--	210	--	--	--	--	--	--	--	--	--	14	<0.5	<0.6	--	3,800	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-42517	4/25/2017	530	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	14	0.8	0.8	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-51817	5/18/2017	530	<6.0	<6.0	--	--	--	--	230	--	--	--	--	--	--	--	--	--	14	<0.5	1.3	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-FD01-52417	5/24/2017	530	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	13	<0.3	1.1	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-52417	5/24/2017	530	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	14	0.4	<0.6	--	3,700	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-63017	6/30/2017	450	<6.0	<6.0	--	--	--	--	210	--	--	--	--	--	--	--	--	--	14	<0.4	<0.7	--	3,700	--	--		
M-64A	Background	FAP/BAP	CH-CCR-FD01-72717	7/27/2017	470	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	14	<0.4	<0.7	--	3,600	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-72717	7/27/2017	470	<6.0	<6.0	--	--	--	--	220	--	--	--	--	--	--	--	--	--	15	<0.4	<0.7	--	3,700	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-90717	9/7/2017	460	<6.0	<6.0	--	--	--	--	210	--	--	--	--	--	--	--	--	--	14	<0.5	<0.7	--	3,700	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-120817	12/8/2017	540	<6.0	<6.0	--	--	--	--	210	--	--	--	--	--	--	--	--	--	14	--	--	--	3,000	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-21518	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M-64A-51918	5/19/2018	520	<6.0	<6.0	520	<6.0	--	--	200	--	--	--	--	--	--	--	--	--	13	<0.5	<0.7	--	4,000	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M-64A-102218	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD-01-102218	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-21319	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.6	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41119	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.6	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD01-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-102419	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-0520	5/6/2020	490	<6	<6	490	<6	0.73	5.0	5.5	5.0	230	2.2	1.9	--	--	<0.5	--	--	20	<0.4	<0.8	--	3,400	5.1	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD05-0520	5/6/2020	470	<6	<6	470	<6	0.75	5.5	5.5	4.8	220	2.3	1.9	--	--	<0.5	--	--	19	<0.4	<0.8	--	3,800	5.5	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-1020	10/24/2020	--	--	--	--	--	0.77	4.8	5.5	5.5	--	2	2.2	--	--	<0.25	--	--	--	<0.4	<0.8	--	--	4.5	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-0421	4/15/2021	--	--	--	--	--	0.88	4.6 J	6.2	5.9	250	2.4	2.3	--	--	<0.25	--	--	18	<0.4	<0.7	--	3,800	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-1021	10/22/2021	--	--	--	--	--	0.77	4.5 J	6.1	6.6	--	2.3	2.5	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-0422	4/26/2022	470	<6	<6	470	<6	0.93	4.9	6.9	7.1	270	2.6	2.6	--	--	<0.25	--	--	13	<0.4	1.0	--	3,300	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-1022	10/22/2022	460	<6	<6	460	<6	0.93	5.3	8.7	6.5	270	2.4	2.4	--	--	<0.25	--	--	12	<0.4	<0.6	--	3,300	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-0423	04/17/2023	420	<6	<6	420	<6	0.86	6.0	7.2	6.0	290	2.3	2.1	--	--	<0.1	--	--	15	0.5	<0.6	--	3,800	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-1023	10/17/2023	430	<6	<6	430	<6	0.90	5.2 J	6.3	6.5	260	2.2	2.2	--	--	<0.1	--	--	14	0.7	<0.72	--	2,900	--	--		
M-50A	Downgradient Boundary	FAP	7792	12/2/2015	170	<6.0	<6.0	--	--	--	--	250	--	--	--	--	--	--	--	--	--	8.8	<0.4	<0.7	16	1,900	--	--		
M-50A	Downgradient Boundary	FAP	7793	12/2/2015	180	<6.0	<6.0	--	--	--	--	250	--	--	--	--	--	--	--	--	--	8.7	<0.4	<0.7	16	1,900	--	--		
M-50A	Downgradient Boundary	FAP	CH-M-50A-0316	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2	<0.5	--	--	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-516	5/5/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	<0.8	--	--	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-816	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.6	--	--	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-916	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	1.1	--	--	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-217	2/21/2017	170	<6.0	<6.0	--	--	--	--	240	--	--	--	--	--	--	--	--	--	8.7	<0.4	<0.6	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-41317	4/13/2017	180	<6.0	<6.0	--	--	--	--	230	--	--	--	--	--	--	--	--	--	7.9	<0.6	<0.6	--	1,700	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-42617	4/26/2017	180	<6.0	<6.0	--	--	--	--	230	--	--	--	--	--	--	--	--	--	8.0	<0.4	<0.6	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-51817	5/18/2017	180	<6.0	<6.0	--	--	--	--	240	--	--	--	--	--	--	--	--	--	8.1	0.6	<0.6	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-52417	5/24/2017	180	<6.0	<6.0	--	--	--	--	250	--	--	--	--	--	--	--	--	--	8.8	0.8	<0.6	--	1,900	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-63017	6/30/2017	180	<6.0	<6.0	--	--	--	--	230	--	--	--	--	--	--	--	--	--	7.8	<0.5	<0.7	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-72717	7/27/2017	180	<6.0	<6.0	--	--	--	--	240	--	--	--	--	--	--	--	--	--	8.1	<0.4	<0.7	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP	CH-CCR-M50A-90717	9/7/2017	180	<6.0	<6.0	--	--	--	--	240	--	--	--	--	--	--	--	--	--	8.3	<0.4	<0.6	--	1,800	--	--		
M-50A	Downgradient Boundary	FAP																												

**Table D-3
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

Constituent:	Additional Analyses																												
	Filtered:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Disolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon	Uranium			
	Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L	mg/L			
	FAP BTW	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
M-63A	Supplementary	FAP	CH-CCR-M63A-1022	10/21/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	<0.6	--	--	--				
M-63A	Supplementary	FAP	CH-CCR-M63A-0423	04/15/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.39	<0.58	--	--				
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD05-0423	04/15/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.39	1.00	--	--				
M-63A	Supplementary	FAP	CH-CCR-M63A-1023	10/11/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.9	<0.72	--	--				
M-63A	Supplementary	FAP	*DUP* CH-CCR-FD06-1023	10/11/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	<0.72	--	--				
W-125	Supplementary	FAP	7794	12/2/2015	170	<6.0	<6.0	--	--	--	51	--	--	--	--	--	--	--	--	3.7	2.8	2.6	12	500	--				
W-125	Supplementary	FAP	CH-W-125-0316	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4	0.6	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-516	5/22/2016	170	<6.0	<6.0	--	--	--	48	--	--	--	--	--	--	--	--	3.5	1.3	1.3	11	460	--				
W-125	Supplementary	FAP	CH-CCR-W125-816	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4	3.1	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-916	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2	<0.7	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-217	2/20/2017	170	<6.0	<6.0	--	--	--	49	--	--	--	--	--	--	--	--	3.7	1.7	1.3	--	490	--				
W-125	Supplementary	FAP	CH-CCR-W125-41317	4/13/2017	170	<6.0	<6.0	--	--	--	47	--	--	--	--	--	--	--	--	3.4	1.3	1.2	--	450	--				
W-125	Supplementary	FAP	CH-CCR-W125-42617	4/26/2017	180	<6.0	<6.0	--	--	--	48	--	--	--	--	--	--	--	--	3.6	1.3	2.2	--	480	--				
W-125	Supplementary	FAP	CH-CCR-FD02-52217	5/22/2017	180	<6.0	<6.0	--	--	--	51	--	--	--	--	--	--	--	--	3.7	1.3	<0.6	--	480	--				
W-125	Supplementary	FAP	CH-CCR-W125-52217	5/22/2017	180	<6.0	<6.0	--	--	--	50	--	--	--	--	--	--	--	--	3.6	1.0	1.7	--	470	--				
W-125	Supplementary	FAP	CH-CCR-W125-52417	5/24/2017	180	<6.0	<6.0	--	--	--	51	--	--	--	--	--	--	--	--	3.7	1.8	1.3	--	490	--				
W-125	Supplementary	FAP	CH-CCR-W125-62917	6/29/2017	180	<6.0	<6.0	--	--	--	48	--	--	--	--	--	--	--	--	3.4	1.1	1.5	--	440	--				
W-125	Supplementary	FAP	CH-CCR-W125-72717	7/27/2017	180	<6.0	<6.0	--	--	--	51	--	--	--	--	--	--	--	--	3.7	1.7	1.1	--	480	--				
W-125	Supplementary	FAP	CH-CCR-FD02-90617	9/6/2017	180	<6.0	<6.0	--	--	--	50	--	--	--	--	--	--	--	--	3.7	<0.5	1.2	--	470	--				
W-125	Supplementary	FAP	CH-CCR-W125-90617	9/6/2017	180	<6.0	<6.0	--	--	--	50	--	--	--	--	--	--	--	--	3.7	1.7	1.1	--	470	--				
W-125	Supplementary	FAP	CH-CCR-W125-0520	5/6/2020	160	<6	<6	--	--	--	51	--	--	--	--	--	--	--	--	4.3	--	--	--	450	--				
W-125	Supplementary	FAP	CH-CCR-W125-1020	10/24/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.7	1.4	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-0421	4/15/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	1.2	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-1021	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4 J	0.9 J	--	--	--				
W-125	Supplementary	FAP	CH-CCR-FD05-1021	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2 J	1.9 J	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-0422	4/28/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5	2.1	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-1022	10/22/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.6	1.2	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-0423_A	04/17/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-0423	04/25/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9	0.9	--	--	--				
W-125	Supplementary	FAP	CH-CCR-W125-1023	10/17/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.2	1.4	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-010318	1/3/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-CCR-W-126-125128	12/5/2018	100	<6.0	<6.0	--	--	--	470	--	--	--	--	--	--	--	--	91	<0.4	<0.6	24 J	4,000	--				
W-126	Supplementary	FAP	CH-CCR-W126-41119	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-51519	5/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-62419	6/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-71119	7/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-81919	8/19/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	*DUP* CH-APP-W126FD-111419	11/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-APP-W126-111419	11/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CCH-CCR-W126-112619	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--	--	--				
W-126	Supplementary	FAP	CH-CCR-W126-112619	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
W-126	Supplementary	FAP	CH-CCR-W126-0520	5/5/2020	95	<6	<6	--	--	<0.5	2.3	<0.1	<0.1	500	0.12	0.10	--	--	<0.5	--	--	--	87	<0.4	<0.8	--	4,200	2.3	--
W-126	Supplementary	FAP	CH-CCR-W126-1020	10/25/2020	--	--	--	--	--	<0.5	1.9	0.064	0.048	--	0.29	0.3	--	--	<0.25	--	--	--	--	<0.4	<0.8	--	--	1.9	--
W-126	Supplementary	FAP	CH-CCR-W126-0421	4/15/2021	--	--	--	--	--	0.20	1.9	0.15	0.10	490	0.16	0.15	--	--	<0.25	--	--	--	92	<0.4	<0.7	--	4,200	--	--
W-126R	Supplementary	FAP	CH-DEV-W126R-0621	6/4/2021	82 J	<6 UJ	<6 UJ	82 J	<6 UJ	--	--	--	--	410	--	--	--	--	--	--	--	--	--	49	--	--	4,500	--	--
W-126R	Supplementary	FAP	CH-ABREP-W126R-0621	6/15/2021	84	<6	<6	84	<6	--	0.17	--	--	420	--	--	--	--	--	--	--	--	--	47	--	--	--	--	--
W-126R	Supplementary	FAP	CH-CCR-W126R-0821	8/3/2021	--	--	--	--	0.43	2.0	0.26	0.14	--	0.51	0.53	--	<0.25	--	--	--	--	--	0.4	<0.6	--	--	--	--	--
W-126R	Supplementary	FAP	CH-CCR-W126R-1021	10/23/2021	--	--	--	--	0.42	2.1	1.1	0.071 J	--	0.51	0.49	--	<0.25	--	--	--	--	--	<0.4	<0.6	--	--	--	--	--
W-126R	Supplementary	FAP	CH-CCR-W126R-0422	4/27/2022	81	<6	<6	81	<6	0.45	2.2	0.1	0.051 J	470	0.54	0.53	--	--	<0.25	--	--	--	53	<0.4	<0.6	--	4,300	--	--
W-126R	Supplementary	FAP	CH-CCR-126R-1022	10/21/2022	78	<6	<6	78	<6	0.42	2.7	0.14	0.1	390	0.66	0.6	--	--	<0.25	--	--	--	46	<0.4	<0.6	--	3,800	--	--
W-126R	Supplementary	FAP	CH-CCR-W126R-0423	04/15/2023	73	<6	<6	73	<6	0.36	2.5	<0.1	<0.1	400	0.65	0.68	--	--	<0.1R	--	--	--	59	<0.66	0.6	--	4,300	--	--
W-126R	Supplementary	FAP	CH-CCR-W-126R-1023	10/16/2023	72	<6	<6	72	<6	0.59	2.1	<0.1	<0.1	340	0.55	0.56	--	--	<0.1	--	--	--	39	<0.36	<0.75	--	3,600	--	--
FAP	Supplementary	FAP	CH-FAP-01052012	1/5/2012	--	--	--	--	--																				

**Table D-3
Groundwater Sampling Results for the FAP Monitoring Wells - Appendix III Constituents**

Constituent:				Additional Analyses																								
				Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon	Uranium
Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	mg/L	mg/L	mg/L	mg/L	mg/L		
FAP BTV				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
FAP GWPS				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
FAP	Supplementary	FAP	CH-CCR-FAP-1216	12/21/2016	<6.0	<6.0	<6.0	<6.0	<6.0	--	--	--	--	2,500	--	--	--	--	--	--	190	--	--	--	8,600	--	--	
FAP	Supplementary	FAP	CH-CCR-FAP-1216	12/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
FAP	Supplementary	FAP	CH-CCR-M100-1216	12/21/2016	<6.0	<6.0	<6.0	<6.0	<6.0	--	--	--	--	2,500	--	--	--	--	--	--	190	--	--	--	8,500	--	--	
FAP	Supplementary	FAP	CH-CCR-M100-1216	12/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
FAP	Supplementary	FAP	CH-APP-FAP-60717	6/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	<0.50	--	9.8	9.8	--	--	--	--	--	--	0.0028	
FAP	Supplementary	FAP	CH-APP-FAP-60717	6/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0024		
FAP	Supplementary	FAP	CH-APP-FAP-70217	7/2/2017	--	--	--	--	--	--	--	--	--	3,600	--	--	--	--	--	--	220	--	--	--	14,000	--	--	
FAP	Supplementary	FAP	CH-APP-FAP-10617	10/6/2017	--	--	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	11	11	--	--	--	--	--	--	--	
FAP	Supplementary	FAP	CH-APP-FAP-10617	10/6/2017	--	--	--	--	--	--	--	--	--	--	--	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--	--	
FAP	Supplementary	FAP	CH-APP-FFAP-10617	10/6/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
FAP	Supplementary	FAP	CH-CCR-FAP-33019	3/30/2019	36	<6.0	<6.0	36	<6.0	--	--	--	--	4,900	--	--	--	--	--	--	340	--	--	--	17,000	--	--	
FAP	Supplementary	FAP	CH-CCR-FAP-33019	3/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
FAP	Supplementary	FAP	CH-APP-FAP-42919	4/29/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0021		
FAP	Supplementary	FAP	CH-CCR-FAP-1021	10/31/2021	240	<6	<6	240	<6	0.14	74	3.3	3.1	12,000	28	25	--	--	<0.25	--	520	14.1	<3.6	--	32,000	76	--	
FAP	Supplementary	FAP	CH-CCR-FAP-0422	4/21/2022	230	<6	<6	230	<6	0.041 J	140 J	1.2	1.1	12,000	27	26	--	--	<2.5	--	650	<0.4	<0.6	--	33,000	86	--	
FAP	Supplementary	FAP	CH-CCR-SS11-0422	4/21/2022	217	<20	<20	217	--	<4	79.6	<15	<15	11,300	29.6	25.2	--	--	<0.1	--	621	--	--	--	34,300	87.5 J	--	
FAP	Supplementary	FAP	CH-CCR-FAP-1022	10/26/2022	260	<6	<6	260	<6	0.22	62	<1	0.68	8,200	23	22	--	--	<0.25	--	410	1.7	<0.6	--	24,000	69	--	
FAP	Supplementary	FAP	CH-CCR-FAP-0423	04/25/2023	260	<6	<6	260	<6	0.27	62	1.7	1.2	9,500	28	29	--	--	<2	--	680	<0.43	<0.58	--	26,000	64	--	
FAP	Supplementary	FAP	CH-CCR-FAP-1023	10/13/2023	84	<6	<6	84	<6	0.15	140	1.7	0.86	19,000	48	50	--	--	--	--	910	90	92	--	51,000	130	--	
Bud	Supplementary	FAP	Bud Hunt	10/8/2012	168	<5.0	<5.0	168	--	--	--	--	--	44.5	--	--	--	--	<0.4	--	<0.4	--	--	--	231	--	--	
Bud	Supplementary	FAP	CH-BUD-0613	6/5/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.8	--	<0.8	--	--	--	--	--	--	
Bud	Supplementary	FAP	CH-BUD-0613, C28117-4	6/5/2013	168	<5.0	<5.0	168	--	--	--	--	--	44.7	--	--	--	--	--	--	<10	--	--	--	198	--	--	
Bud	Supplementary	FAP	CH-BUD-0614	6/11/2014	181	<5.0	--	181	--	--	--	--	--	40	--	--	--	--	<0.4	--	<0.4	--	--	--	214	--	--	
Bud	Supplementary	FAP	CH-BUD-0615	6/17/2015	333	<5.0	<5.0	333	--	--	--	--	--	43.2	--	--	--	--	0.12	0.15	--	<10	--	--	224	--	--	
Bud	Supplementary	FAP	CH-APP-BudHunt-1016	10/5/2016	--	--	--	--	--	--	--	--	--	41	--	--	--	--	<0.10	--	<0.10	<0.50	--	--	230	--	--	
Bud	Supplementary	FAP	CH-APP-BudHunt-60617	6/6/2017	--	--	--	--	--	--	--	--	--	42	--	--	--	--	<0.10	<0.10	<0.10	<0.50	--	--	210	--	--	
Bud	Supplementary	FAP	CH-CCR-BudHunt-1022	10/21/2022	170	<6	<6	170	<6	<0.05	2.2	<0.1	<0.1	43	<0.01	<0.01	--	--	<0.25	--	3.5	<0.4	<0.6	--	210	--	--	
Bud	Supplementary	FAP	CH-CCR-BudHunt-0423	04/19/2023	170	<6	<6	170	<6	<0.05	0.91	<0.1	<0.1	44	<0.01	<0.01	--	--	<0.1	--	3.4	<0.49	<0.6	--	240	--	--	
Bud	Supplementary	FAP	CH-CCR-BudHunt-1023	10/17/2023	170	<6	<6	170	<6	<0.05	0.13	<0.1	<0.1	36	<0.01	<0.01	--	--	<0.1	--	2.8	<0.36	<0.75	--	170	--	--	
Geronimo C	Supplementary	FAP	CH-CCR-GeronC-0421	4/15/2021	81	<6	<6	--	--	--	--	--	--	750	--	--	--	--	--	--	73	<0.4	<0.8	--	5,500	3.3	--	
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-0422	4/20/2022	68	<6	<6	68	<6	<0.05	2.9	0.53	0.27	600	0.25	0.25	--	--	0.50	--	48	<0.3	<0.6	--	4,600	2.9	--	
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-0423	04/25/2023	66	<6	<6	66	<6	<0.05	2.2	0.24	0.16	530	0.12	0.13	--	--	0.77	--	50	--	--	--	4,000	2.2	--	
Geronimo C	Supplementary	FAP	CH-CCR-GeronimoC-1023	10/23/2023	72	<6	<6	72	<6	<0.05	2.2	0.27	<0.1	520	0.42	0.33	--	--	0.29	--	51	--	--	--	4,600	2.3	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronD-0421	4/15/2021	83	<6	<6	--	--	--	--	--	--	580	--	--	--	--	--	--	58	<0.4	<0.8	--	4,900	3.1	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-0422	4/20/2022	80	<6	<6	80	<6	<0.05	3.2	0.62	0.40	560	0.15	0.093	--	--	<0.5	--	47	<0.3	<0.6	--	4,600	3.1	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-1022	10/27/2022	89	<6	<6	89	<6	<0.05	4.1	0.22	<0.1	520	0.028	<0.01	--	--	0.29	--	41	--	--	--	4,300	3.6	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-0423	04/25/2023	76	<6	<6	76	<6	<0.05	2.7	0.14	<0.1	530	<0.01	<0.01	--	--	0.18	--	55	--	--	--	3,900	2.5	--	
Geronimo D	Seepage Collection Sump	FAP	CH-CCR-GeronimoD-1023	10/23/2023	95	<6	<6	95	<6	<0.05	3.2	<0.1	<0.1	610	<0.01	<0.01	--	--	0.25	--	64	--	--	--	5,100	2.7	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0421	4/15/2021	64	<6	<6	--	--	--	--	--	--	250	--	--	--	--	--	--	33	<0.4	<0.8	--	3,000	1.7	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0422	4/20/2022	56	<6	<6	56	<6	0.54	2.3	<0.12 U	<0.1 U	250	0.95	0.93	--	--	<0.25	--	28	<0.3	<0.6	--	3,000	1.9	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1022	10/27/2022	54	<6	<6	54	<6	0.9	2.7 J	0.28	<0.1	240	1.3	1.3	--	--	<0.25	--	26	0.6	0.7	--	3,200	1.9 J	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-0423	04/25/2023	71	<6	<6	71	<6	1.9	2 J	<0.5 UJ	0.9 J	240	6.7	7.7	--	--	<0.1	--	27	0.7	0.6	--	3,500	2.1	--	
Hunt B	Extraction Well	FAP	CH-CCR-HuntB-1023	10/23/2023	51	<6	<6	51	<6	0.46	1.8	<0.1	<0.1	250	1.1	1.1	--	--	0.19	--	31	<0.41	<0.73	--	3,100	1.6	--	

Notes:
 BTV exceedances are shown in grey shaded cells. GWPS exceedance are shown in red text.
 Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

- < = less than
- BTV = Background Threshold Value
- CCR = Coal Combustion Residual
- degrees C = degrees Celsius
- FAP = Fly Ash Pond
- GWPS = Groundwater Protection Standard
- ID = Identification
- J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- mg/L = milligrams per liter
- pCi/L = PicoCuries per liter
- R = rejected
- su = standard units
- U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents									
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
					N	Y	N	Y	N	N	N	N	N	
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	
					Filtered:	N	Y	N	Y	N	N	N	N	N
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L
					<i>BAP BTV</i>	1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
					<i>BAP GWPS</i>	--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
M-64A	Background	FAP/BAP	CH-CCR-M100-217	2/20/2017	1.1	--	570	--	4,000	<8.0	7.4	4,100	11,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-217	2/20/2017	1.2	--	520	--	4,500	<0.80	7.4	4,400	10,000	
M-64A	Background	FAP/BAP	CH-CCR-FD02-41217	4/12/2017	1.2	--	550	--	4,200	<2.0	7.7	4,300	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41217	4/12/2017	1.2	--	500	--	4,200	<0.80	7.6	4,200	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-42517	4/25/2017	1.3	--	490	--	4,100	<0.80	7.5	4,300	11,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-51817	5/18/2017	1.3	--	510	--	4,400	<0.80	7.6	4,400	12,000	
M-64A	Background	FAP/BAP	CH-CCR-FD01-52417	5/24/2017	1.2	--	520	--	4,000	<0.80	7.4	4,100	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-52417	5/24/2017	1.3	--	520	--	4,200	<0.80	7.4	4,400	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-63017	6/30/2017	1.2	--	600	--	5,100	<0.80	7.3	4,700	13,000	
M-64A	Background	FAP/BAP	CH-CCR-FD01-72717	7/27/2017	1.3	--	620	--	4,700	<0.80	7.4	4,600	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-72717	7/27/2017	1.3	--	640	--	4,900	<0.80	7.4	4,800	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-90717	9/7/2017	1.2	--	620	--	4,700	<0.80	7.3	4,300	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-120817	12/8/2017	1.2	--	500	--	3,500	<0.80	7.4	4,400	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-21518	2/15/2018	--	--	--	--	--	<0.80	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-51918	5/19/2018	1.4	--	460	--	4,700	<0.80	7.3	4,600	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-102218	10/22/2018	1.3	--	510	--	3,900	<0.80	7.4	3,700	13,000	
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD-01-102218	10/22/2018	1.3	--	500	--	4,100	<2.0	7.3	4,000	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-21319	2/13/2019	--	--	--	--	--	<0.80	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41119	4/11/2019	1.3	--	500	--	4,400	<0.80	7.3 J	4,300	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-8119	8/1/2019	1.3	--	450	--	4,200	<0.8	7.4 J	4,300	12,000	
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD01-8119	8/1/2019	1.3	--	450	--	4,300	<0.8	7.4 J	4,300	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-102419	10/24/2019	1.2	--	460	--	8,400	<0.80	7.5 J	8,600	13,000	
M-64A	Background	FAP/BAP	CH-CCR-M64-0520	5/6/2020	1.2	--	520	--	3,900	<0.8	7.3 J	3,900	12,000	
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD05-0520	5/6/2020	1.3	--	510	--	4,100	<0.8	7.6 J	4,100	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64-1020	10/24/2020	1.2	--	480	--	4,500	0.28	7.3 J	4,400	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64-0421	4/15/2021	1.2	--	540	--	4,300	0.21 J	7.5 J	4,400	6,600	
M-64A	Background	FAP/BAP	CH-CCR-M64-1021	10/22/2021	1.0	--	540	--	4,400	0.38 J	7.4 J	3,900	11,000 J	
M-64A	Background	FAP/BAP	CH-CCR-M64A-0422	4/26/2022	1.0	--	590	--	4,300	0.34 J	7.3 J	3,800	14,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-1022	10/22/2022	1.1	--	580	--	4,400	<0.8	7.3 J	4,000	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-0423	04/17/2023	1.1	--	640	--	4,200	<10	6.9 J	3,700	12,000	
M-64A	Background	FAP/BAP	CH-CCR-M64A-1023	10/11/2023	0.91	--	570	--	4,100	<0.4	7.4 J	3,600	12,000	
M-52A	Downgradient Boundary	BAP	7879	12/1/2015	3.9	--	790	--	3,600	0.53	6.99	3,000	9,600	
M-52A	Downgradient Boundary	BAP	CH-M-52A-0316	3/9/2016	3.4	--	780	--	3,800	<2.0	7.01	2,700	10,000	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-516	5/10/2016	3.4	--	910	--	5,100	<2.0	--	2,400	12,000	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-816	8/26/2016	3.3	--	890	--	4,000	0.97	6.8	2,600	11,000	

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
					N	Y	N	Y	N	N	N	N	N
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-916	9/22/2016	3.2	--	810	--	3,700	0.89	7.2	2,700	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M101-217	2/21/2017	3.7	--	810	--	3,900	0.98	7.4	2,900	10,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-217	2/21/2017	3.8	--	850	--	3,700	0.98	7.2	2,600	9,700
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-41117	4/11/2017	3.6	--	850	--	4,600	0.80	7.5	2,800	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-42517	4/25/2017	3.6	--	810	--	4,100	0.99	7.0	2,700	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-51817	5/18/2017	3.7	--	880	--	4,400	0.86	7.3	2,900	10,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-52417	5/24/2017	3.6	--	850	--	4,300	0.96	7.2	2,800	10,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-63017	6/30/2017	3.3	--	790	--	4,000	1.0	7.0	3,100	9,800
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-72817	7/28/2017	3.1	--	780	--	3,500	1.0	7.0	3,100	9,200
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-90717	9/7/2017	3.2	--	790	--	3,200	0.90	7.1	2,900	9,100
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-120717	12/7/2017	3.1	--	820	--	3,600	0.84	7.1	2,700	9,700
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-21518	2/15/2018	--	--	--	--	--	1.1	--	--	--
M-52A	Downgradient Boundary	BAP	--	5/20/2018	3.7	--	850	--	4,500	1.2	6.9	2,800	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-6718	6/7/2018	3.5	--	810	--	4,600	0.99	6.8	2,900	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M-52A-102418	10/24/2018	3.5	--	840	--	3,900	0.89	7.0	2,700	10,000
M-52A	Downgradient Boundary	BAP	CH-M-52A-102418	10/24/2018	--	--	--	--	--	--	--	--	--
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-12818	12/8/2018	4.3	--	920	--	4,900	1.0 J,U J	6.8 J	2,700	11,000
M-52A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD01-21519	2/15/2019	--	--	--	--	--	<0.80	--	--	--
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-21519	2/15/2019	--	--	--	--	--	0.93	--	--	--
M-52A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD01-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-41619	4/16/2019	--	--	--	--	--	1.1	--	--	--
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-8119	8/1/2019	3.5	--	880	--	5,000	1.0	6.9 J	2,800	12,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-102419	10/24/2019	3.2	--	760	--	3,400	0.91	7.0 J	2,900	9,300
M-52A	Downgradient Boundary	BAP	CH-CCR-M52-0420	4/19/2020	4.1	--	700	--	4,300	0.88	7.2 J	3,400	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52-1020	10/22/2020	2.9	--	660	--	2,500	1.5	7.4 J	3,000	7,700
M-52A	Downgradient Boundary	BAP	CH-CCR-M52-0421	4/17/2021	3.5	--	780	--	3,600	1.5	6.9 J	3,000	9,500
M-52A	Downgradient Boundary	BAP	CH-CCR-M52-1021	10/29/2021	3.0	--	650	--	4,200	1.3	7.3 J	5,800	7,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-0522	05/04/2022	3.9	--	760	--	4,100	1.1	7.1 J	3,100	10,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-1022	10/24/2022	3.6	--	750	--	3,200	1.5	7.1 J	3,100	8,800
M-52A	Downgradient Boundary	BAP	CH-CCR-MW52A-1022	10/24/2022	--	--	--	--	--	--	--	--	--
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-0423	04/19/2023	4.6	--	830	--	3,400	<4	6.9 J	2,600	11,000
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-1023	10/11/2023	3.7	--	650	--	2,600	1.7	7.3 J	2,900	8,200
M-53A	Downgradient Boundary	BAP	7878	12/1/2015	2.9	--	740	--	2,600	0.87	7.57	2,900	8,100
M-53A	Downgradient Boundary	BAP	CH-M-53A-0316	3/9/2016	2.4	--	770	--	2,500	0.94	7.44	2,600	7,400
M-53A	Downgradient Boundary	BAP	CH-CCR-DUP1-516	5/10/2016	2.4	--	750	--	2,400	<2.0	--	2,600	7,800
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-516	5/10/2016	2.4	--	750	--	2,400	<2.0	--	2,500	7,800

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
M-53A	Downgradient Boundary	BAP	CH-CCR-M101-816	8/26/2016	3.1	--	660	--	2,400	2.3	7.4	3,000	8,100
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-816	8/26/2016	3.0	--	660	--	2,400	2.3	7.4	3,000	8,000
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-916	9/22/2016	3.0	--	640	--	2,500	0.98	7.6	3,000	8,300
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-217	2/21/2017	3.1	--	660	--	2,300	2.0	7.5	2,900	7,600
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-41217	4/12/2017	3.0	--	710	--	2,800	1.3	7.5	2,700	8,100
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-42517	4/25/2017	2.6	--	740	--	2,500	1.3	7.4	2,700	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-51817	5/18/2017	3.1	--	640	--	2,400	2.2	7.7	3,200	8,100
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-52417	5/24/2017	3.3	--	660	--	2,300	2.4	7.6	3,100	7,600
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-70117	7/1/2017	3.1	--	600	--	2,500	2.6	7.4	3,300	7,700
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-72817	7/28/2017	3.3	--	670	--	2,500	2.4	7.5	3,300	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-90717	9/7/2017	3.3	--	650	--	2,400	2.3	7.5	3,100	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-120717	12/7/2017	3.2	--	630	--	2,400	2.3	7.6	3,000	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-21518	2/15/2018	--	--	--	--	--	1.4	--	--	--
M-53A	Downgradient Boundary	BAP	CH-CCR-FD01-52018	5/20/2018	3.2	--	600	--	2,300	2.6	7.4	3,100	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M-53A-52018	5/20/2018	3.3	--	620	--	2,400	2.4	7.4	3,400	7,800
M-53A	Downgradient Boundary	BAP	CH-CCR-M-53A-102618	10/26/2018	3.2	--	620	--	2,200	2.1	7.5	2,900	7,500
M-53A	Downgradient Boundary	BAP	CH-M-53A-102618	10/26/2018	--	--	--	--	--	--	--	--	--
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD02-12718	12/7/2018	3.3	--	600	--	2,300	2.3 J,U J	7.4 J	3,100	8,000
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-12718	12/7/2018	3.4	--	620	--	2,300	2.3 J,U J	7.4 J	3,000	7,600
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-21519	2/15/2019	--	--	--	--	--	1.2	--	--	--
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-41719	4/17/2019	--	--	--	--	--	2.1	--	--	--
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-8119	8/1/2019	3.2	--	590	--	2,200	2.3	7.5 J	2,900	7,800
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-102319	10/23/2019	3.3	--	590	--	2,200 J	2.2 J	7.5 J	2,900 J	7,900 J
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD03-0420	4/19/2020	3.7	--	620	--	2,300	2.1	7.4 J	3,000	7,800
M-53A	Downgradient Boundary	BAP	CH-CCR-M53-0420	4/19/2020	3.7	--	610	--	2,400	2.1	7.5 J	3,100	8,200
M-53A	Downgradient Boundary	BAP	CH-CCR-M53-1020	10/22/2020	3.6	--	630	--	2,400	2.5	7.5 J	3,000	7,500
M-53A	Downgradient Boundary	BAP	CH-CCR-M53-0421	4/17/2021	3.2	--	670	--	2,400	2.1	7.3 J	3,100	7,800
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD03-0421	4/17/2021	3.2	--	680	--	2,200	2.1	7.3 J	2,900	7,500
M-53A	Downgradient Boundary	BAP	CH-CCR-M53-1021	10/28/2021	3.6	--	620	--	3,700	2.1	7.5 J	6,000	7,000
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-0522	05/04/2022	3.3	--	670	--	2,300	2.1	7.5 J	3,000	7,100
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1022	10/23/2022	4.2	--	690	--	2,200	2.1	7.4 J	3,100	7,900
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-0423	04/19/2023	4.1	--	680	--	2,200	2.4	7.4 J	3,100	7,700
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1023	10/19/2023	3.8	--	580	--	2,100	2.4	7.5 J	2,900	7,800
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71-1021	10/30/2021	3.4	--	690	--	2,500	3.0	7.6 J	3,900	7,300
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-0522	5/10/2022	3.6	--	660	--	7,900	3.3	7.7 J	7,000	7,700
MW-71A	Downgradient Boundary	BAP	CH-CCR-MW71A-1022	10/24/2022	3.7	--	730	--	2,100	2.7	7.5 J	3,100	8,500

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
MW-71A	Downgradient Boundary	BAP	CH-CCR-MW71A-0423	04/19/2023	3.9	--	750	--	2,100	3.1	7.7 J	3,000	7,400
MW-71A	Downgradient Boundary	BAP	CH-CCR-MW71A-1023	10/18/2023	3.5	--	630	--	870	3.4	7.6 J	1,200	7,800
MW-72M	Downgradient Boundary	BAP	CH-CCR-M72-1021	10/30/2021	0.50	--	8,200	--	34,000	0.098 J	7.1 J	2,200	48,000
MW-72M	Downgradient Boundary	BAP	CH-CCR-M72M-0522	5/10/2022	0.47	--	8,200	--	36,000	1.3	7.1 J	3,500	58,000
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-0522re	5/27/2022	<0.5	--	7,900	--	38,000	1.6	7.0 J	1,600	41,000
MW-72M	Downgradient Boundary	BAP	CH-CCR-SS05-0522	5/27/2022	<5	--	8,260	--	36,900	0.29 J	7.0 J	975 J	67,500 J
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-1022	10/24/2022	0.28	--	8,400	--	39,000	<0.8	7.0 J	1,200	62,000
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-0423	04/19/2023	0.33	--	8,500	--	37,000	<40	7.1 J	1,200	74,000
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-1023	10/18/2023	<0.5	--	8,200	--	35,000	<0.8	7.6 J	1,800	61,000
MW-73A	Downgradient Boundary	BAP	CH-CCR-M73-1021	10/30/2021	4.5	--	880	--	4,200	3.7	7.3 J	4,100	9,900
MW-73A	Downgradient Boundary	BAP	CH-CCR-M73A-0522	5/11/2022	5.3	--	610	--	2,400	4.1	7.5 J	3,600	9,300
MW-73A	Downgradient Boundary	BAP	CH-CCR-MW73A-1022	10/24/2022	5.0	--	790	--	3,300	3.4	7.2 J	3,500	10,000
MW-73A	Downgradient Boundary	BAP	CH-CCR-MW73A-0423	04/20/2023	4.7	--	600	--	2,200	3.9	7.3 J	3,300	8,300
MW-73A	Downgradient Boundary	BAP	CH-CCR-MW73A-1023	10/18/2023	5.2	--	690	--	2,600	4.2	7.2 J	3,300	8,900
MW-74M	Downgradient Boundary	BAP	CH-DEV-MW74M-0921	9/29/2021	1.8	--	740	--	2,200	0.86	--	2,800	7,000 J
MW-74M	Downgradient Boundary	BAP	CH-CCR-M74-1021	10/30/2021	1.8	--	710	--	2,200	0.85	7.4 J	2,800	6,600
MW-74M	Downgradient Boundary	BAP	CH-CCR-M74M-0522	5/11/2022	2.0	--	750	--	2,100	1.2	7.7 J	2,600	7,000
MW-74M	Downgradient Boundary	BAP	CH-CCR-MW74M-1022	10/25/2022	2.1	--	760	--	2,300	1.0	7.4 J	2,700	7,300
MW-74M	Downgradient Boundary	BAP	CH-CCR-MW74M-0423	04/20/2023	2.3	--	820	--	2,100	<4	7.7 J	2,600	7,400
MW-74M	Downgradient Boundary	BAP	CH-CCR-MW74M-1023	10/18/2023	2.1	--	690	--	2,200	1.4	7.9 J	2,600	7,400
MW-77A	Downgradient	BAP	CH-DEV-MW77A-0621	6/3/2021	0.70	--	600	--	3,600	0.56	--	3,800	11,000 J
MW-77A	Downgradient	BAP	CH-BAPD-MW77A-0621	6/15/2021	0.73	--	590	--	3,200	0.36 J	--	4,100	11,000
MW-77A	Downgradient	BAP	CH-CCR-MW77A-0821	8/2/2021	0.82	--	550	--	3,300	0.33 J	7.3 J	4,200	11,000
MW-77A	Downgradient	BAP	CH-CCR-M77-1021	10/28/2021	0.73	--	580	--	3,900	0.32 J	7.4 J	5,000	11,000
MW-77A	Downgradient	BAP	CH-CCR-MW77A-0422	4/28/2022	0.79	--	630	--	3,400	0.41 J	7.3 J	4,200	16,000
MW-77A	Downgradient	BAP	CH-CCR-MW77A-1022	10/22/2022	0.88	--	620	--	3,500	<0.8	7.3 J	4,400	10,000
MW-77A	Downgradient	BAP	CH-CCR-MW77A-0423	04/25/2023	0.77	--	570	--	3,400	<4	7.4 J	4,200	11,000
MW-77A	Downgradient	BAP	CH-CCR-MW77A-1023	10/17/2023	0.72	--	550	--	3,600	<0.8	7.5 J	4,700	11,000
MW-78A	Downgradient	BAP	CH-DEV-MW78A-0621	6/8/2021	0.48	--	710	--	2,600	0.51	--	2,200	7,700
MW-78A	Downgradient	BAP	CH-BAPD-MW78A-0621	6/14/2021	0.41	--	720	--	2,800	0.38 J	--	2,400	8,100
MW-78A	Downgradient	BAP	CH-CCR-MW78A-0821	8/2/2021	0.43	--	690	--	2,700	0.39 J	7.3 J	2,400	8,000
MW-78A	Downgradient	BAP	CH-CCR-M78-1021	10/28/2021	0.41	--	710	--	3,000	0.36 J	7.3 J	2,600	7,400
MW-78A	Downgradient	BAP	CH-CCR-M78A-0522	5/11/2022	0.42	--	740	--	2,800	0.54 J	7.5 J	2,400	8,100
MW-78A	Downgradient	BAP	CH-CCR-MW78A-1022	10/25/2022	0.42	--	760	--	2,800	<0.8	7.3 J	2,400	9,400
MW-78A	Downgradient	BAP	CH-CCR-MW78A-0423	04/24/2023	0.41	--	760	--	2,800	<4	7.6 J	2,400	8,000
MW-78A	Downgradient	BAP	CH-CCR-MW78A-1023	10/23/2023	0.42	--	750	--	2,700	<0.4	7.2 J	2,300	7,900

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
MW-79A	Downgradient	BAP	CH-BAPD-MW79A-0621	6/14/2021	0.33	--	750	--	2,200	0.54 J	--	2,400	5,600
MW-79A	Downgradient	BAP	CH-CRT-M79A-0621_062421	6/24/2021	0.34	--	--	--	--	--	--	--	--
MW-79A	Downgradient	BAP	CH-CRT2-M79A-0621_062421	6/24/2021	0.35	--	--	--	--	--	--	--	--
MW-79A	Downgradient	BAP	CH-CRT2-M79A-0621_062521	6/25/2021	0.33	--	--	--	--	--	--	--	--
MW-79A	Downgradient	BAP	CH-CCR-MW79A-0821	8/2/2021	0.34	--	730	--	2,200	0.52 J	7.3 J	2,300	7,200
MW-79A	Downgradient	BAP	CH-CCR-M79-1021	10/25/2021	0.33	--	740	--	2,400	0.51 J	7.3 J	2,600	6,900 J
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD03-1021	10/25/2021	0.33	--	750	--	2,400	0.51 J	7.4 J	2,500	7,300 J
MW-79A	Downgradient	BAP	CH-CCR-M79A-0522	5/12/2022	0.35	--	760	--	2,300	0.69 J	7.6 J	2,300	7,000
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD03-0522	5/12/2022	0.35	--	780	--	2,400	0.67 J	7.6 J	2,400	7,300
MW-79A	Downgradient	BAP	CH-CCR-MW79A-1022	10/20/2022	0.38	--	810	--	2,400	<0.8	7.3 J	2,600	7,600
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD02-1022	10/20/2022	0.41	--	780	--	2,400	<0.8	7.3 J	2,400	6,900
MW-79A	Downgradient	BAP	CH-CCR-MW79A-0423	04/14/2023	0.39 J	--	880	--	2,400	<2	7.5 J	2400 J	7400 J
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD02-0423	04/14/2023	0.39 J	--	860	--	2,400	<2	7.8 J	2400 J	3000 J
MW-79A	Downgradient	BAP	CH-CCR-MW79A-1023	10/13/2023	0.37	--	740	--	2,400	0.89	7.4 J	2,400	7,300
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD02-1023	10/13/2023	0.35	--	780	--	2,400	0.52	7.4 J	2,400	7,300
W-305	Downgradient Boundary	BAP	--	12/2/2015	0.32	--	770	--	2,600	1.4	7.05	2,300	7,000
W-305	Downgradient Boundary	BAP	--	3/9/2016	0.3	--	690	--	2,300	<0.80	7.32	2,300	7,000
W-305	Downgradient Boundary	BAP	--	5/11/2016	0.29	--	710	--	2,100	<2.0	--	2,200	7,000
W-305	Downgradient Boundary	BAP	--	8/27/2016	0.31	--	720	--	2,200	<0.80	7.3	2,400	7,200
W-305	Downgradient Boundary	BAP	--	9/22/2016	0.32	--	700	--	2,300	<2.0	7.6	2,400	7,400
W-305	Downgradient Boundary	BAP	--	2/21/2017	0.32	--	730	--	2,200	<0.80	7.4	2,300	6,800
W-305	Downgradient Boundary	BAP	--	4/11/2017	0.32	--	730	--	2,300	<0.80	7.7	2,400	7,300
W-305	Downgradient Boundary	BAP	--	4/24/2017	0.33	--	690	--	2,300	<0.80	7.6	2,400	6,800
W-305	Downgradient Boundary	BAP	--	5/22/2017	0.33	--	750	--	2,300	<0.80	7.6	2,400	7,200
W-305	Downgradient Boundary	BAP	--	5/24/2017	0.35	--	740	--	2,400	<0.80	7.5	2,500	6,800
W-305	Downgradient Boundary	BAP	--	6/29/2017	0.31	--	670	--	2,600	<0.40	7.5	2,500	6,900
W-305	Downgradient Boundary	BAP	--	7/28/2017	0.35	--	750	--	2,300	<0.80	7.3	2,300	7,200
W-305	Downgradient Boundary	BAP	--	9/6/2017	0.33	--	770	--	2,200	<0.80	7.4	2,400	6,900
W-305	Downgradient Boundary	BAP	--	12/7/2017	0.34	--	760	--	2,500	<0.80	7.4	2,400	7,000
W-305	Downgradient Boundary	BAP	CH-CCR-W305-21518	2/15/2018	--	--	--	--	--	<0.80	--	--	--
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-51918	5/19/2018	0.34	--	700	--	2,700	<0.80	7.3	2,800	7,000
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-51918	5/19/2018	--	--	--	--	2,400	--	--	2,300	--
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-102618	10/26/2018	0.34	--	730	--	2,300	<0.80	7.3	2,300	7,000
W-305	Downgradient Boundary	BAP	CH-W-305-102618	10/26/2018	--	--	--	--	--	--	--	--	--
W-305	Downgradient Boundary	BAP	CH-CCR-W305-12718	12/7/2018	0.35	--	710	--	2,400	<0.80 J,U J	7.3 J	2,300	7,000
W-305	Downgradient Boundary	BAP	CH-CCR-W305-21519	2/15/2019	--	--	--	--	--	<0.40	--	--	--

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date									
W-305	Downgradient Boundary	BAP	CH-CCR-W305-41719	4/17/2019	--	--	--	--	--	<0.80	--	--	--
W-305	Downgradient Boundary	BAP	CH-CCR-W305-8119	8/1/2019	0.33	--	670	--	2,400	<0.8	7.3 J	2,300	7,000
W-305	Downgradient Boundary	BAP	*DUP* CH-CCR-FD01-102319	10/23/2019	0.48	--	85	--	1,400	1.3	7.8 J	350	7,100
W-305	Downgradient Boundary	BAP	CH-CCR-W305-102319	10/23/2019	0.34	--	690	--	2,400	<0.80	7.3 J	2,300	7,000
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0420	4/18/2020	0.41	--	680	--	2,400	<0.8	7.4 J	2,300	7,600
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1020	10/22/2020	0.34	--	720	--	2,500	0.39 J	7.3 J	2,400	6,900
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0421	4/17/2021	0.37	--	730	--	2,300 J	0.45 J	7.4 J	2,300 J	6,800
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1021	10/29/2021	0.37	--	690	--	2,600	0.32 J	7.4 J	2,700	6,600
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0522	5/12/2022	0.40	--	730	--	2,400	0.53 J	7.6 J	2,400	7,200
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1022	10/20/2022	0.48	--	820	--	2,400	<0.8	7.4 J	2,500	7,300
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0423	04/14/2023	0.48 J	--	800	--	2,300	<2	7.4 J	2,300 J	7,200 J
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1023	11/21/2023	0.45	--	720	--	2,300	<0.8	7.4 J	2,300	7,000
W-306	Downgradient Boundary	BAP	7797	12/2/2015	0.32	--	550	--	2,400	0.75	7.02	3,600	8,900
W-306	Downgradient Boundary	BAP	CH-W-306-0316	3/9/2016	0.46	--	460	--	2,200	1.4	7.82	7,100	13,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-516	5/11/2016	0.56	--	430	--	1,900	<2.0	--	8,000	15,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-816	8/26/2016	1.1	--	440	--	1,800	1.4	7.7	11,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-916	9/22/2016	1.1	--	430	--	4,900	<0.40	7.9	11,000	20,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-217	2/21/2017	1.1	--	430	--	1,800	1.5	7.9	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-41217	4/12/2017	1.0	--	410	--	1,800	1.4	8.2	12,000	20,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-42517	4/25/2017	1.1	--	410	--	1,900	1.5	7.9	13,000	20,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-52217	5/22/2017	1.0	--	420	--	1,800	1.1	7.9	12,000	20,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-52417	5/24/2017	1.0	--	420	--	1,800	1.0	7.9	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-70117	7/1/2017	0.95	--	380	--	2,100	1.3	7.8	13,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-72817	7/28/2017	0.99	--	410	--	2,100	1.2	7.8	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-90617	9/6/2017	0.97	--	430	--	1,800	1.4	7.8	11,000	17,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-120717	12/7/2017	1.0	--	440	--	1,900	1.4	7.9	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-21518	2/15/2018	--	--	--	--	--	1.3	--	--	--
W-306	Downgradient Boundary	BAP	CH-CCR-FD02-21518	2/15/2018	--	--	--	--	--	1.3	--	--	--
W-306	Downgradient Boundary	BAP	CH-CCR-W-306-51918	5/19/2018	1.0	--	390	--	2,000	1.6	7.8	13,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W-306-102618	10/26/2018	1.0	--	420	--	1,800	1.4	7.9	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-W-306-102618	10/26/2018	--	--	--	--	--	--	--	--	--
W-306	Downgradient Boundary	BAP	CH-CCR-W306-12718	12/7/2018	1.1	--	410	--	1,900	1.4 J,U J	7.9 J	12,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-21519	2/15/2019	--	--	--	--	--	1.2	--	--	--
W-306	Downgradient Boundary	BAP	CH-CCR-W306-41619	4/16/2019	--	--	--	--	--	1.0	--	--	--
W-306	Downgradient Boundary	BAP	CH-CCR-W306-8119	8/1/2019	1.1	--	390	--	1,900	0.99	7.9 J	12,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-102319	10/23/2019	1.0	--	380	--	1,900	1.0	7.9 J	13,000	19,000

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date									
W-306	Downgradient Boundary	BAP	*DUP* CH-CCR-FD04-0420	4/19/2020	1.1	--	400	--	1,800	1.5	7.9 J	12,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-0420	4/19/2020	1.2	--	400	--	2,000	1.1	7.8 J	13,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-1020	10/22/2020	0.94	--	440	--	2,100	1.1	7.7 J	13,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-0421	4/17/2021	0.99	--	430	--	1,900	0.94	7.9 J	12,000	18,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-1021	10/29/2021	0.95	--	430	--	2,100	0.84	7.9 J	12,000	17,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-0522	05/04/2022	1.0	--	440	--	2,000	0.87	7.9 J	12,000	17,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-1022	10/23/2022	1.2	--	440	--	1,900	<0.8	7.8 J	11,000	16,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-0423	04/19/2023	1.2	--	450	--	2,000	<4	7.9 J	12,000	19,000
W-306	Downgradient Boundary	BAP	CH-CCR-W306-1023	10/19/2023	1.0	--	420	--	2,100	1.0	7.9 J	11,000	18,000
W-314	Downgradient Boundary	BAP	7798	12/2/2015	0.98	--	780	--	2,900	1.2	7.62	2,200	7,400
W-314	Downgradient Boundary	BAP	CH-W-314-0316	3/10/2016	0.96	--	760	--	3,000	<0.80	7.35	2,300	7,200
W-314	Downgradient Boundary	BAP	CH-CCR-W314-516	5/11/2016	0.97	--	780	--	2,600	<2.0	--	2,100	7,400
W-314	Downgradient Boundary	BAP	CH-CCR-W314-816	8/26/2016	1.1	--	820	--	2,600	0.93	7.3	2,200	8,000
W-314	Downgradient Boundary	BAP	CH-CCR-W314-916	9/22/2016	1.1	--	800	--	2,700	1.1	7.6	2,300	8,100
W-314	Downgradient Boundary	BAP	CH-CCR-W314-217	2/21/2017	1.1	--	810	--	2,600	0.97	7.5	2,100	7,200
W-314	Downgradient Boundary	BAP	CH-CCR-W314-41117	4/11/2017	1.1	--	780	--	2,800	0.91	7.7	2,200	7,700
W-314	Downgradient Boundary	BAP	CH-CCR-W314-42517	4/25/2017	1.1	--	810	--	2,800	0.80	7.5	2,300	7,500
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52217	5/22/2017	1.1	--	840	--	2,800	0.90	7.5	2,300	7,600
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52417	5/24/2017	1.1	--	840	--	2,800	0.90	7.4	2,300	7,400
W-314	Downgradient Boundary	BAP	CH-CCR-W314-63017	6/30/2017	1.1	--	770	--	2,900	1.1	7.4	2,500	7,900
W-314	Downgradient Boundary	BAP	CH-CCR-W314-72817	7/28/2017	1.1	--	800	--	2,800	0.90	7.3	2,200	7,600
W-314	Downgradient Boundary	BAP	CH-CCR-W314-90717	9/7/2017	1.1	--	860	--	2,800	0.90	7.3	2,200	7,700
W-314	Downgradient Boundary	BAP	CH-CCR-W314-120717	12/7/2017	1.1	--	830	--	2,900	0.85	7.4	2,200	7,500
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21518	2/15/2018	--	--	--	--	--	1.1	--	--	--
W-314	Downgradient Boundary	BAP	CH-CCR-W-314-52018	5/20/2018	1.1	--	790	--	2,900	1.3	7.3	2,400	7,500
W-314	Downgradient Boundary	BAP	CH-CCR-W-314-102418	10/24/2018	1.1	--	800	--	2,600	0.83	7.5	2,200	7,400
W-314	Downgradient Boundary	BAP	CH-W-314-102418	10/24/2018	--	--	--	--	--	--	--	--	--
W-314	Downgradient Boundary	BAP	CH-CCR-W314-12818	12/8/2018	1.1	--	800	--	2,700	0.89 J,U J	7.3 J	2,100	7,700
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21519	2/15/2019	--	--	--	--	--	0.82	--	--	--
W-314	Downgradient Boundary	BAP	CH-CCR-W314-41619	4/16/2019	--	--	--	--	--	0.87	--	--	--
W-314	Downgradient Boundary	BAP	CH-CCR-W314-8119	8/1/2019	1.2	--	740	--	2,700	0.84	7.4 J	2,200	7,600
W-314	Downgradient Boundary	BAP	CH-CCR-W314-102419	10/24/2019	1.2	--	750	--	2,700 J	<0.80U J	7.4 J	2,200 J	7,400 J
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0420	4/19/2020	1.4	--	790	--	2,900	0.84	7.5 J	2,300	7,600
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1020	10/23/2020	1.2	--	790	--	2,800	0.90	7.2 J	2,400	7,200
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0421	4/16/2021	1.3	--	770	--	2,600	1.1	7.4 J	2,300	7,800
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1021	10/29/2021	1.3	--	730	--	2,400	1.1	7.4 J	2,200	6,800

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0522	5/11/2022	1.4	--	730	--	2,500	1.0	7.6 J	2,500	7,300
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1022	10/25/2022	1.4	--	720	--	2,400	1.0	7.5 J	2,600	7,900
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0423	04/20/2023	1.7	--	750	--	2,300	<4	7.5 J	2,500	7,300
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1023	10/18/2023	1.5	--	670	--	2,300	0.97	7.5 J	2,600	7,600
TDX-3 ¹	Extraction Well	BAP	CH-BAPD-BSX01-0621	6/14/2021	3.3	--	680	--	2,100	1.7	--	3,000	7,300
TDX-3 ¹	Extraction Well	BAP	CH-CRT-BSX01-0621_062221	6/22/2021	3.4	--	--	--	--	--	--	--	--
TDX-3 ¹	Extraction Well	BAP	CH-CCR-BSX01-0821	8/2/2021	4.0	--	630	--	2,100	2.5	7.6 J	3,000	7,200
TDX-4 ¹	Extraction Well	BAP	CH-CCR-BSX02-0821	8/2/2021	1.8	--	660	--	2,200	0.85	7.4 J	2,600	6,400
TDX-5 ¹	Extraction Well	BAP	CH-CRT-BSX03-0621_062621	6/26/2021	3.2	--	--	--	--	--	--	--	--
TDX-5 ¹	Extraction Well	BAP	CH-CRT-BSX03-0621_062321	6/23/2021	1.7	--	--	--	--	--	--	--	--
TDX-5 ¹	Extraction Well	BAP	CH-CCR-BSX03-0821	8/2/2021	3.2	--	640	--	2,100	2.9	7.8 J	2,900	7,100
BSX-04	Supplementary	BAP	CH-CRT-BSX04-0621_062721_AM	6/27/2021	1.7	--	--	--	--	--	--	--	--
BSX-04	Supplementary	BAP	CH-CRT-BSX04-0621_062721_PM	6/27/2021	1.7	--	--	--	--	--	--	--	--
BSX-04	Supplementary	BAP	CH-CCR-BSX04-0821	8/3/2021	1.6	--	700	--	2,100	0.99	7.2 J	2,700	6,600
BSX-05	Supplementary	BAP	CH-CCR-BSX05-0821	8/3/2021	3.1	--	680	--	2,100	2.4	7.5 J	3,000	7,100
M-55A	Supplementary	BAP	7877	12/1/2015	0.40	--	630	--	2,300	0.57	7.33	3,800	8,900
M-55A	Supplementary	BAP	CH-M-55A-0316	3/9/2016	0.39	--	630	--	2,900	<0.80	7.49	3,500	9,600
M-55A	Supplementary	BAP	CH-CCR-M55A-516	5/10/2016	0.41	--	620	--	2,900	<2.0	--	3,400	9,900
M-55A	Supplementary	BAP	CH-CCR-M55A-816	8/26/2016	0.43	--	660	--	3,200	<0.80	7.3	3,500	10,000
M-55A	Supplementary	BAP	CH-CCR-M55A-916	9/22/2016	0.42	--	630	--	3,400	<0.80	7.7	3,700	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-217	2/21/2017	0.40	--	660	--	3,500	<0.80	7.5	3,400	10,000
M-55A	Supplementary	BAP	CH-CCR-M55A-41217	4/12/2017	0.40	--	670	--	3,800	<0.80	7.5	3,500	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-42517	4/25/2017	0.44	--	680	--	3,600	<0.80	7.3	3,500	10,000
M-55A	Supplementary	BAP	CH-CCR-M55A-51817	5/18/2017	0.41	--	670	--	3,800	<0.80	7.6	3,700	10,000
M-55A	Supplementary	BAP	CH-CCR-M55A-52417	5/24/2017	0.42	--	690	--	3,700	<0.80	7.4	3,500	10,000
M-55A	Supplementary	BAP	CH-CCR-M55A-70117	7/1/2017	0.42	--	650	--	3,900	<0.80	7.4	3,700	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-72817	7/28/2017	0.44	--	710	--	4,100	<0.80	7.3	3,800	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-90717	9/7/2017	0.45	--	710	--	3,900	<0.80	7.3	3,600	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-12818	12/8/2018	0.43	--	700	--	4,300	<0.80 J,U J	7.3 J	3,400	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-21519	2/15/2019	--	--	--	--	--	<0.80	--	--	--
M-55A	Supplementary	BAP	CH-CCR-M55A-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--
M-55A	Supplementary	BAP	CH-CCR-M55A-8119	8/1/2019	0.41	--	680	--	4,200	<0.8	7.3 J	3,300	11,000
M-55A	Supplementary	BAP	CH-CCR-M55A-102419	10/24/2019	0.40	--	670	--	4,300	<0.80	7.4 J	3,400	12,000
M-55A	Supplementary	BAP	CH-CCR-M55-0420	4/17/2020	0.46	--	700	--	4,600	<0.8	7.5 J	3,500	11,000
M-55A	Supplementary	BAP	CH-CCR-M55-1020	10/24/2020	0.39	--	730	--	4,700	0.49 J	7.4 J	3,500	11,000
M-55A	Supplementary	BAP	CH-CCR-M55-0421	4/18/2021	0.40	--	750	--	4,500	0.58 J	7.4 J	3,500	10,000

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents									
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
					Filtered:	N	Y	N	Y	N	N	N	N	
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
					BAP BTV	1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
					BAP GWPS	--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
M-55A	Supplementary	BAP	CH-CCR-M55-1021	10/27/2021	0.41	--	700	--	4,100	0.59 J	7.5 J	3,400	11,000	
M-55A	Supplementary	BAP	CH-CCR-M55A-0522	5/12/2022	0.42	--	730	--	4,400	0.61 J	7.6 J	3,400	10,000	
M-55A	Supplementary	BAP	CH-CCR-M55A-0423	04/20/2023	0.44	--	800	--	4,500	<2	7.7 J	3,500	12,000	
M-55A	Supplementary	BAP	CH-CCR-M55A-1023	10/12/2023	0.44	--	710	--	4,300	0.6	7.5 J	3,300	12,000	
MW-69A	Supplementary	BAP	CH-CCR-M69-0420	4/19/2020	3.7	--	630	--	2,500	1.5	7.5 J	3,000	8,000	
MW-69A	Supplementary	BAP	CH-CCR-M69-1020	10/23/2020	3.1	--	660	--	2,500	1.5	7.5 J	3,000	7,800	
MW-69A	Supplementary	BAP	CH-CCR-M69-0421	4/17/2021	3.3	--	690	--	2,500	1.3	7.3 J	3,100	8,100	
MW-69A	Supplementary	BAP	CH-CCR-M69-1021	10/29/2021	3.2	--	670	--	3,100	1.1	7.3 J	4,300	7,100	
MW-69A	Supplementary	BAP	CH-CCR-M69A-0522	05/04/2022	3.1	3.2	630	630	2,400	1.5	7.5 J	3,000	7,300	
MW-69A	Supplementary	BAP	CH-CCR-MW69A-1022	10/24/2022	3.3	--	690	--	2,400	1.1	7.4 J	3,100	8,000	
MW-69A	Supplementary	BAP	CH-CCR-MW69A-0423	04/19/2023	3.7	--	750	--	2,500	<2	7.5 J	3,100	8,000	
MW-69A	Supplementary	BAP	CH-CCR-MW69A-1023	10/19/2023	3.1	--	630	--	2,500	1.4	7.6 J	2,900	8,400	
MW-70M	Supplementary	BAP	CH-CCR-M70-0420	4/19/2020	2.4	--	640	--	2,400	1.2	7.5 J	2,700	7,400	
MW-70M	Supplementary	BAP	CH-CCR-M70-1020	10/23/2020	2.1	--	660	--	2,200	1.1	7.4 J	2,600	6,900	
MW-70M	Supplementary	BAP	*DUP* CH-CCR-FD03-1020	10/23/2020	2.1	--	680	--	2,200	1.1	7.4 J	2,600	6,900	
MW-70M	Supplementary	BAP	CH-CCR-M70-0421	4/17/2021	2.2	--	680	--	2,200	1.2	7.4 J	2,700	7,300	
MW-70M	Supplementary	BAP	CH-CCR-M70-1021	10/29/2021	2.2	--	650	--	4,600	0.97	7.5 J	5,900	7,000	
MW-70M	Supplementary	BAP	CH-CCR-MW70M-0522	05/04/2022	2.2	2.4	630	640	2,100	1.3	7.6 J	2,700	7,100	
MW-70M	Supplementary	BAP	CH-CCR-MW70M-1022	10/24/2022	2.5	--	680	--	2,200	1.1	7.5 J	2,900	7,300	
MW-70M	Supplementary	BAP	CH-CCR-MW70M-0423	04/19/2023	2.7	--	680	--	2,200	<2	7.6 J	2,900	7,700	
MW-70M	Supplementary	BAP	CH-CCR-MW70M-1023	10/18/2023	2.3	--	620	--	2,200	1.3	7.6 J	2,700	7,500	
W-301	Supplementary	BAP	CH-CCR-W301-12718	12/7/2018	2.4	--	760	--	4,000	<0.80 J,U J	7.2 J	3,300	10,000	
W-301	Supplementary	BAP	CH-CCR-W301-21519	2/15/2019	--	--	--	--	--	<0.40U J	--	--	--	
W-301	Supplementary	BAP	CH-CCR-W301-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--	
W-301	Supplementary	BAP	CH-CCR-W301-8919	8/9/2019	0.72	--	810	--	6,200	<0.8	7.2 J	3,500	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-102319	10/23/2019	0.65	--	760	--	6,300 J	<0.80U J	7.3 J	3,600 J	14,000 J	
W-301	Supplementary	BAP	CH-CCR-W301-0420	4/18/2020	0.70	--	690	--	6,400	<0.8	7.4 J	3,600	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-1020	10/22/2020	0.58	--	780	--	6,600	0.33 J	7.4 J	3,800	13,000	
W-301	Supplementary	BAP	CH-CCR-W301-0421	4/17/2021	0.60	--	800	--	6,200	0.34 J	7.4 J	3,700	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-1021	10/28/2021	0.60	--	770	--	6,400	0.13 J	7.4 J	4,000	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-0522	05/03/2022	0.62	--	780	--	6,000	0.43 J	7.5 J	3,700	13,000	
W-301	Supplementary	BAP	CH-CCR-W301-1022	10/22/2022	0.71	--	820	--	6,000	<0.8	7.3 J	4,000	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-0423	04/18/2023	0.70	--	850	--	5,700	<4	7.5 J	3,800	14,000	
W-301	Supplementary	BAP	CH-CCR-W301-1023	10/19/2023	0.63	--	750	--	5,700	<0.8	7.6 J	3,700	14,000	
W-302	Supplementary	BAP	CH-CCR-W302-12718	12/7/2018	0.64	--	560	--	2,600	0.98 J,U J	7.3 J	2,400	7,200	
W-302	Supplementary	BAP	CH-CCR-W302-21519	2/15/2019	--	--	--	--	--	0.88	--	--	--	

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents									
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
					Filtered:	N	Y	N	Y	N	N	N	N	
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000	
BAP GWPS					--	--	--	--	--	--	--	--	--	
Well ID	Designation	CCR Unit	Sample ID	Sample Date										
W-302	Supplementary	BAP	CH-CCR-W302-41719	4/17/2019	--	--	--	--	--	0.82	--	--	--	
W-302	Supplementary	BAP	CH-CCR-W302-8919	8/9/2019	0.66	--	610	--	2,700	0.80	7.3 J	2,300	7,700	
W-302	Supplementary	BAP	CH-CCR-W302-102319	10/23/2019	0.59	--	570	--	2,700 J	0.80 J	7.4 J	2,300 J	8,000 J	
W-302	Supplementary	BAP	CH-CCR-W302-0420	4/17/2020	0.64	--	590	--	3,000	0.97	7.4 J	2,300	8,100	
W-302	Supplementary	BAP	CH-CCR-W302-1020	10/23/2020	0.57	--	640	--	3,200	0.82	7.3 J	2,300	7,700	
W-302	Supplementary	BAP	CH-CCR-W302-0421	4/17/2021	0.60	--	680	--	3,100	0.95	7.4 J	2,200	8,000	
W-302	Supplementary	BAP	CH-CCR-W302-1021	10/30/2021	0.58	--	690	--	3,500	0.72 J	7.4 J	2,400	7,300	
W-302	Supplementary	BAP	CH-CCR-W302-0522	5/11/2022	0.62	--	740	--	3,200	0.90	7.6 J	2,100	8,700	
W-302	Supplementary	BAP	CH-CCR-W302-1022	10/25/2022	0.62	--	800	--	3,500	<0.8	7.3 J	2,300	9,100	
W-302	Supplementary	BAP	CH-CCR-W302-0423	04/24/2023	0.58	--	770	--	3,200	<4	7.3 J	2,100	8,300	
W-302	Supplementary	BAP	CH-CCR-W302-1023	10/12/2023	0.59	--	770	--	3,400	1.1	7.4 J	2,200	8,600	
W-303	Supplementary	BAP	--	4/18/2020	3.7	--	620	--	2,800	<0.80	7.5	3,300	8,900	
W-303	Supplementary	BAP	CH-CCR-W303-1020	10/22/2020	3.2	--	660	--	2,800	0.48 J	7.4 J	3,400	8,600	
W-303	Supplementary	BAP	CH-CCR-W303-0421	4/17/2021	3.4	--	650	--	2,700	0.50 J	7.5 J	3,400	8,700	
W-303	Supplementary	BAP	CH-CCR-W303-1021	10/28/2021	3.5	--	690	--	3,200	0.32 J	7.5 J	4,000	10,000	
W-303	Supplementary	BAP	CH-CCR-W303-1022	10/22/2022	4.4	--	740	--	3,200	<0.8	7.4 J	3,800	9,600	
W-303	Supplementary	BAP	CH-CCR-W303-0522	05/04/2022	3.4	--	630	--	3,000	0.67 J	7.5 J	3,400	8,600	
W-303	Supplementary	BAP	CH-CCR-W303-0423	04/18/2023	4.1	--	720	--	2,900	<4	7.7 J	3,400	9,200	
W-303	Supplementary	BAP	CH-CCR-W303-1023	10/19/2023	3.8	--	670	--	3,300	<0.8	7.5 J	3,500	11,000	
W-304	Supplementary	BAP	CH-CCR-W304-12718	12/7/2018	0.50	--	590	--	2,900	<0.80 J,U J	7.3 J	2,900	8,100	
W-304	Supplementary	BAP	CH-CCR-W304-21519	2/15/2019	--	--	--	--	--	<0.80	--	--	--	
W-304	Supplementary	BAP	CH-CCR-W304-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--	
W-304	Supplementary	BAP	CH-CCR-W304-8819	8/8/2019	0.54	--	630	--	3,200	<0.8	7.3 J	3,000	8,700	
W-304	Supplementary	BAP	*DUP* CH-CCR-FD02-102419	10/24/2019	0.52	--	610	--	3,400 J	<0.80U J	7.4 J	2,900 J	9,200 J	
W-304	Supplementary	BAP	CH-CCR-W304-102419	10/24/2019	0.52	--	610	--	3,300	<0.80	7.4 J	2,900	9,100	
W-304	Supplementary	BAP	CH-CCR-W304-0420	4/17/2020	0.52	--	570	--	2,700	<0.8	7.4 J	2,600	8,400	
W-304	Supplementary	BAP	CH-CCR-W304-1020	10/23/2020	0.44	--	600	--	3,000	0.25 J	7.4 J	2,900	8,500	
W-304	Supplementary	BAP	CH-CCR-W304-0421	4/18/2021	0.45	--	600	--	2,800	0.24 J	7.4 J	2,800	8,000	
W-304	Supplementary	BAP	CH-CCR-W304-1021	10/28/2021	0.42	--	600	--	2,600	0.16 J	7.5 J	2,800	6,900	
W-304	Supplementary	BAP	CH-CCR-W304-0522	5/11/2022	0.41	--	660	--	2,500	0.49 J	7.6 J	2,600	7,800	
W-304	Supplementary	BAP	CH-CCR-W304-1022	10/25/2022	0.41	--	720	--	2,700	<0.8	7.5 J	2,700	8,900	
W-304	Supplementary	BAP	CH-CCR-W304-0423	04/24/2023	0.44	--	730	--	2,600	<4	7.5 J	2,600	7,700	
W-304	Supplementary	BAP	CH-CCR-W304-1023	10/12/2023	0.42	--	720	--	2,700	0.52	7.5 J	2,600	7,700	
W-307	Supplementary	BAP	CH-CCR-W307-12818	12/8/2018	2.4	--	790	--	2,700	<0.80 J,U J	7.2 J	2,600	7,800	
W-307	Supplementary	BAP	CH-CCR-W307-21519	2/15/2019	--	--	--	--	--	<0.80	--	--	--	
W-307	Supplementary	BAP	CH-CCR-W307-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--	

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
W-307	Supplementary	BAP	CH-APP-W307-62519	6/25/2019	2.3	--	790	--	2,500	<0.40	7.3	2,500	8,300
W-307	Supplementary	BAP	CH-CCR-W307-8819	8/8/2019	2.6	--	850	--	2,600	<0.8	7.2 J	2,600	7,800
W-307	Supplementary	BAP	CH-CCR-W307-102419	10/24/2019	2.3	--	750	--	2,800	<0.80	7.4 J	2,700	8,100
W-307	Supplementary	BAP	CH-CCR-W307-0420	4/17/2020	2.7	--	710	--	2,600	<0.8	7.3 J	2,500	8,000
W-307	Supplementary	BAP	*DUP* CH-CCR-FD04-1020	10/23/2020	2.5	--	790	--	3,100	0.49 J	7.3 J	2,800	8,000
W-307	Supplementary	BAP	CH-CCR-W307-0421	4/18/2021	2.6	--	800	--	2,700	0.38 J	7.3 J	2,600	8,300
W-307R	Supplementary	BAP	CH-CCR-W307R-1021	10/28/2021	2.6	--	720	--	2,700	0.56 J	7.4 J	2,700	8,400
W-307R	Supplementary	BAP	*DUP* CH-CCR-FD04-1021	10/28/2021	2.5	--	700	--	2,700	0.55 J	7.3 J	2,700	7,900
W-307R	Supplementary	BAP	CH-CRT-W307R-1221	12/1/2021	2.7	--	--	--	--	--	--	--	--
W-307R	Supplementary	BAP	CH-CRT2-W307R-1221	12/1/2021	2.7	--	--	--	--	--	--	--	--
W-307R	Supplementary	BAP	CH-CRT3-W307R-1221	12/2/2021	2.7	--	--	--	--	--	--	--	--
W-307R	Supplementary	BAP	W-307R-1221	12/2/2021	2.6	--	--	--	--	--	--	--	--
W-307R	Supplementary	BAP	CH-CCR-W307R-0522	5/12/2022	2.8	--	700	--	2,700	0.55 J	7.6 J	2,900	8,600 J
W-307R	Supplementary	BAP	*DUP* CH-CCR-FD04-0522	5/12/2022	2.9	--	720	--	2,700	0.47 J	7.5 J	2,800	6,900 J
W-307R	Supplementary	BAP	CH-CCR-SS06-0522	5/12/2022	2.68	--	704	--	2,730	<0.25/0.32 J	8.0 J	2,900	8,620 J
W-307R	Supplementary	BAP	CH-CCR-W307R-1022	10/25/2022	2.8	--	790	--	2,500	<0.8	7.3 J	2,900	9,500
W-307R	Supplementary	BAP	*DUP* CH-CCR-FD03-1022	10/25/2022	2.8	--	740	--	2,700	<0.8	7.4 J	3,100	8,700
W-307R	Supplementary	BAP	CH-CCR-W307R-0423	04/24/2023	2.8	--	710	--	2,400	<4	7.5 J	2,800	8,000
W-307R	Supplementary	BAP	*DUP* CH-CCR-FD03-0423	04/24/2023	2.9	--	700	--	2,500	<4	7.4 J	2,900	8,200
W-307R	Supplementary	BAP	CH-CCR-W307R-1023	10/12/2023	2.5	--	700	--	2,500	0.62	7.5 J	2,800	7,600
W-307R	Supplementary	BAP	*DUP* CH-CCR-FD03-1023	10/12/2023	2.6	--	720	--	2,500	0.61	7.4 J	2,800	7,900
W-308	Supplementary	BAP	CH-CCR-W308-12818	12/8/2018	0.45	--	730	--	2,900	<0.80 J,U J	7.1 J	3,000	8,300
W-308	Supplementary	BAP	CH-CCR-W308-21519	2/15/2019	--	--	--	--	--	<0.80	--	--	--
W-308	Supplementary	BAP	CH-CCR-W308-41619	4/16/2019	--	--	--	--	--	<0.80	--	--	--
W-308	Supplementary	BAP	CH-APP-W308-62519	6/25/2019	0.45	--	780	--	2,900	<0.40	7.3	2,800	8,800
W-308	Supplementary	BAP	CH-CCR-W308-8819	8/8/2019	0.48	--	850	--	3,000	<0.8	7.2 J	2,700	8,700
W-308	Supplementary	BAP	CH-CCR-W308-102419	10/24/2019	0.45	--	780	--	3,100 J	<0.80U J	7.3 J	2,800 J	8,900 J
W-308	Supplementary	BAP	CH-CCR-W308-0420	4/17/2020	0.50	--	760	--	2,900	<0.8	7.3 J	2,500	8,600
W-308	Supplementary	BAP	CH-CCR-W308-1020	10/24/2020	0.41	--	820	--	3,400	0.48 J	7.0 J	2,800	8,700
W-308	Supplementary	BAP	CH-CCR-W308-0421	4/18/2021	0.42	--	840	--	3,400	0.46 J	7.2 J	2,700	8,800
W-308	Supplementary	BAP	CH-CCR-W308-1021	10/28/2021	0.41	--	820	--	3,200	0.54 J	7.3 J	2,500	7,900
W-308	Supplementary	BAP	CH-CCR-W308-0522	5/12/2022	0.42	--	840	--	4,300	0.40 J	7.5 J	4,100	9,900
W-308	Supplementary	BAP	CH-CCR-W308-1022	10/26/2022	0.42	--	870	--	3,500	<0.8	7.3 J	2,700	9,400
W-308	Supplementary	BAP	CH-CCR-W308-0423	04/20/2023	0.45	--	850	--	3,100	<4	7.5 J	2,600	8,800
W-308	Supplementary	BAP	CH-CCR-W308-1023	10/12/2023	0.41	--	810	--	3,400	0.54	7.3 J	2,600	9,100
W-309	Supplementary	BAP	CH-CCR-W309-12818	12/8/2018	0.42	--	280	--	1,300	1.0 J,U J	8.1 J	2,900	6,500

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date									
W-309	Supplementary	BAP	CH-CCR-W309-21519	2/15/2019	--	--	--	--	--	1.1	--	--	--
W-309	Supplementary	BAP	CH-CCR-W309-41619	4/16/2019	--	--	--	--	--	1.0	--	--	--
W-309	Supplementary	BAP	CH-APP-W309-62519	6/25/2019	0.46	--	450	--	1,600	1.2	7.5	3,000	7,100
W-309	Supplementary	BAP	CH-CCR-W309-8819	8/8/2019	0.50	--	470	--	1,600	1.1	7.5 J	3,200	7,300
W-309	Supplementary	BAP	CH-CCR-W309-102419	10/24/2019	0.45	--	430	--	1,600 J	1.1 J	7.5 J	3,300 J	7,100 J
W-309	Supplementary	BAP	CH-CCR-W309-0520	5/4/2020	0.46	--	440	--	1,500	1.2	7.5 J	3,200	7,200
W-309	Supplementary	BAP	CH-CCR-W309-1020	10/24/2020	0.43	--	450	--	1,700	1.1	7.2 J	3,400	7,100
W-309	Supplementary	BAP	CH-CCR-W309-0421	4/18/2021	0.45	--	470	--	1,500	1.0	7.4 J	3,200	7,300
W-309	Supplementary	BAP	CH-CCR-W309-1021	10/27/2021	0.46	--	460	--	1,500	1.3	7.5 J	3,100	6,900
W-309	Supplementary	BAP	CH-CCR-W309-0522	5/12/2022	0.46	--	450	--	1,800	1.3	7.7 J	4,700	6,400
W-309	Supplementary	BAP	CH-CCR-W309-0423	04/20/2023	0.49	--	470	--	1,600	<4	7.5 J	3,100	7,200
W-309	Supplementary	BAP	CH-CCR-W309-1023	10/12/2023	0.45	--	460	--	1,600	1.1	7.6 J	3,200	7,200
W-317	Supplementary	BAP	CH-CCR-W317-33019	3/30/2019	0.20	--	320	--	1,400	<0.40	7.5 J	670	3,300
W-317	Supplementary	BAP	*DUP* CH-CCR-FD03-41719	4/17/2019	--	--	--	--	--	<0.80	--	--	--
W-317	Supplementary	BAP	CH-CCR-W317-41719	4/17/2019	--	--	--	--	--	<0.80	--	--	--
W-317	Supplementary	BAP	*DUP* CH-CCR-FD01-8819	8/8/2019	0.48	--	450	--	1,600	1.0	7.5 J	3,200	7,200
W-317	Supplementary	BAP	CH-CCR-W317-8919	8/9/2019	0.22	--	360	--	1,500	<0.4	7.4 J	700	3,400
W-317	Supplementary	BAP	CH-CCR-W317-102419	10/24/2019	0.21	--	340	--	1,400 J	<0.40U J	7.5 J	680 J	3,400 J
W-317	Supplementary	BAP	CH-CCR-W317-0420	4/16/2020	0.21	--	350	--	1,500	<0.8	7.5 J	730	3,700
W-317	Supplementary	BAP	CH-CCR-W317-1020	10/21/2020	0.20	--	350	--	1,500	0.36 J	7.6 J	680	3,500
W-317	Supplementary	BAP	CH-CCR-W317-0421	4/14/2021	0.19	--	340	--	1,400	0.35 J	7.6 J	700	2,900
W-317	Supplementary	BAP	CH-CCR-W317-1021	10/21/2021	<0.2 U	--	350	--	1,500	0.34 J	7.5 J	750	3,600 J
W-317	Supplementary	BAP	CH-CCR-W317-0422	4/26/2022	0.21	--	370	--	1,500	0.35 J	7.5 J	690	3,700
W-317	Supplementary	BAP	CH-CCR-W317-1022	10/19/2022	0.22	--	380	--	1,500	<0.8	7.5 J	680	3,400
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-1022	10/19/2022	0.24	--	400	--	--	--	7.5 J	--	3,800
W-317	Supplementary	BAP	CH-CCR-W317-1022-SD	10/19/2022	--	--	--	--	--	--	--	--	--
W-317	Supplementary	BAP	CH-CCR-W317-0423	04/14/2023	0.22 J	--	410	--	1,600	<2	7.4 J	690 J	7000 J
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-0423	04/14/2023	0.22 J	--	410	--	1,600	<2	7.6 J	690 J	7000 J
W-317	Supplementary	BAP	CH-CCR-W317-1023	10/11/2023	0.18	--	0.5	--	1,600 J	<0.4	7.6 J	650 J	3,700
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-1023	10/11/2023	0.19	--	350	--	78 J	<0.4	7.6 J	33 J	3,800
BAP	Supplementary	BAP	CH-BAP-01052012	1/5/2012	5.0	--	--	--	2,800	<4.0	8.05	3,300	8,600
BAP	Supplementary	BAP	CH-BAP-11072012	11/7/2012	6.7	--	690	--	2,600	5.9	--	3,400	8,800
BAP	Supplementary	BAP	CH-BAP-1172012	11/7/2012	5.7	--	770	--	3,200	4.8	--	3,200	9,700
BAP	Supplementary	BAP	CH-BAP-031313	3/13/2013	--	--	--	--	2,010	--	--	2,700	--
BAP	Supplementary	BAP	CH-BAP-031313_C26660-1	3/13/2013	--	--	563	--	--	3.5	7.51	--	7,130
BAP	Supplementary	BAP	CH-BAP-0913	9/18/2013	--	--	--	--	2,200	--	--	2,800	--

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
					Filtered: N	Y	N	Y	N	N	N	N	N
					Units: mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date									
BAP	Supplementary	BAP	CH-BAP-0913_C29829-10	9/18/2013	--	--	562	--	--	3.9	8.46	--	7,400
BAP	Supplementary	BAP	CH-BAP-0514	5/22/2014	--	--	--	--	2,400	--	--	3,300	--
BAP	Supplementary	BAP	CH-BAP-0514_C34218-6	5/22/2014	--	--	645	--	--	4.1	8.01	--	10,600
BAP	Supplementary	BAP	CH-BAP-1014	10/13/2014	--	--	564	--	2,170	4.2	8.11	3,060	8,350
BAP	Supplementary	BAP	CH-BAP-0515	5/4/2015	--	--	523	--	1,710	3.8	8.06	2,590	6,880
BAP	Supplementary	BAP	CH-APP-BP-1016	10/12/2016	--	--	--	--	1,900	5.8	8.8	3,300	8,000
BAP	Supplementary	BAP	CH-APP-BAP-60717	6/7/2017	--	--	--	--	1,800	4.6	8.8	3,300	7,200
BAP	Supplementary	BAP	CH-APP-BAP-10617	10/6/2017	--	--	--	--	1,900	4.1	8.6	3,100	7,500
BAP	Supplementary	BAP	CH-CCR-BAP-33019	3/30/2019	4.8	--	550	--	2,100	3.7	8.3 J	3,100	7,700
BAP	Supplementary	BAP	CH-APP-BAP-42919	4/29/2019	--	--	--	--	2,100	3.7	8.2 J	3,100	8,200
BAP	Supplementary	BAP	CH-CCR-BAP-0421	4/16/2021	3.4	--	560	--	1,800	3.3	8.9 J	2,900	6,800
BAP	Supplementary	BAP	CH-CCR-BAP-1021	10/31/2021	3.2	--	540	--	1,800	3.9	8.4 J	2,900	6,400
BAP	Supplementary	BAP	CH-CCR-BAP-0422	4/21/2022	3.1	--	530	--	1,700	3.5	8.4 J	2,700	6,500
BAP	Supplementary	BAP	CH-CCR-SS07-0422	4/21/2022	3.61	--	688	--	1,700	3.21/2.72 J	8.4 J	2,640	6,640
BAP	Supplementary	BAP	CH-CCR-BAP-1022	10/26/2022	3.2	--	580	--	1,900	3.0	8.5 J	3,100	7,100
BAP	Supplementary	BAP	CH-CCR-BAP-0423	04/26/2023	3.4	--	590	--	1,800	<4	8.3 J	2,800	6,500
BAP	Supplementary	BAP	CH-CCR-BAP-1023	10/13/2023	4.7	--	560	--	1,900	4.3	8.3 J	3,100	7,600
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-0421	4/17/2021	4.3	--	700	--	2,700	3.1	7.6 J	3,200	8,700
Toe Drain Sump	Supplementary	BAP	*DUP* CH-CCR-FD04-0421	4/17/2021	4.3	--	710	--	2,600	3.1	7.5 J	3,100	8,200
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-1021	10/30/2021	4.7	--	720	--	2,600	3.3	7.5 J	3,000	8,100
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-0422	4/21/2022	4.3	--	670	--	2,700	2.7	7.5 J	3,200	8,400
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-1022	10/27/2022	4.8	--	750	--	2,900	2.8	7.4 J	3,500	9,000
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-0423	04/26/2023	4.7	--	710	--	2,500	<4	7.6 J	3,200	8,300
Toe Drain Sump	Supplementary	BAP	CH-CCR-BAPTD-1023	10/24/2023	4.9	--	700	--	2,400	2.5	7.5 J	3,100	8,700
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-0421	4/16/2021	3.6	--	720	--	2,300	3.6	7.4 J	3,200	7,900
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-1021	10/30/2021	3.6	--	670	--	2,100	3.6	7.5 J	2,900	7,100
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-0422	4/21/2022	3.7	--	680	--	2,200	3.4	7.5 J	3,100	7,600
Petroglyph Sump	Supplementary	BAP	CH-CCR-SS08-0422	4/21/2022	2.94	--	521	--	2,160	3.21/3.14 J	8.0 J	3,010	7,930
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-1022	10/27/2022	3.8	--	700	--	2,200	3.2	7.4 J	3,300	7,400
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-0423	04/26/2023	3.8	--	680	--	2,100	<4	7.3 J	3,100	7,400
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-1023	10/24/2023	4.0	--	700	--	2,200	2.9	7.4 J	3,000	8,100
Tanner Wash Sump	Supplementary	BAP	CH-TANNERS-0520	5/8/2020	4.0	--	680	--	2,200	3.8	7.4 J	3,100	8,500
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TanWash-0421	4/16/2021	4.1	--	730	--	2,300	4.0	7.2 J	3,300	7,900
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TanWash-1021	10/30/2021	4.0	--	670	--	2,300	3.6	7.4 J	3,100	7,700
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-0422	4/21/2022	4.2	--	650	--	2,200	3.6	7.5 J	3,300	7,700
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-1022	10/27/2022	4.2	--	750	--	2,300	3.6	7.5 J	3,400	7,900

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents								
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	Y	N	Y	N	N	N	N	N
Filtered:					N	Y	N	Y	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAP BTV					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000
BAP GWPS					--	--	--	--	--	--	--	--	--
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-0423	04/26/2023	4.4	--	670	--	2,300	<8	7.3 J	3,200	7,900
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-1023	10/24/2023	4.2	--	690	--	2,100	32	7.3 J	3,000	7,700
TWX-3	Supplementary	BAP	CH-CCR-P226A-0621	6/1/2021	3.7	--	710	--	2,100	3.3	7.6 J	3,000	7,200
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1021	10/31/2021	3.5	--	670	--	2,200	2.8	7.5 J	3,000	7,000
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0522	05/03/2022	3.3	--	650	--	2,100	3.1	7.5 J	3,100	7,100
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1022	10/27/2022	3.7	--	740	--	2,200	3.0	7.4 J	3,300	7,000
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0423	04/26/2023	3.7	--	680	--	2,300	<8	7.3 J	3,100	8,100
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1023	10/24/2023	3.9	--	680	--	2,100	2.8	7.4 J	3,000	7,700
TWX-4	Supplementary	BAP	CH-CCR-P226B-0621	6/1/2021	3.8	--	690	--	2,300	3.0	7.7 J	3,300	7,300
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1021	10/31/2021	3.8	--	670	--	2,400	3.1	7.6 J	3,300	6,600
TWX-4	Supplementary	BAP	CH-CCR-TWX4-0522	05/03/2022	3.3	--	640	--	2,200	3.1	7.6 J	3,100	7,200
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1022	10/27/2022	4.0	--	700	--	2,200	3.0	7.6 J	3,300	8,100
TWX-5	Supplementary	BAP	CH-CCR-P226C-0621	6/1/2021	3.5	--	710	--	2,100	2.7	7.7 J	2,900	7,600
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1021	10/31/2021	3.8	--	650	--	2,400	3.1	7.5 J	3,300	7,200
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0522	05/03/2022	3.4	--	670	--	2,200	3.1	7.5 J	3,100	7,900
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1022	10/27/2022	3.9	--	700	--	2,200	2.9	7.5 J	3,300	7,000
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0423	04/26/2023	3.6	--	710	--	2,300	<8	7.4 J	3,100	8,000
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1023	10/24/2023	4.0	--	690	--	2,000	2.8	7.3 J	2,900	7,700
TWX-6	Supplementary	BAP	CH-CCR-P226D-0621	6/1/2021	3.4	--	670	--	2,100	2.7	7.6 J	3,000	7,200
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1021	10/31/2021	3.3	--	650	--	2,200	3.0	7.5 J	3,100	7,100
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0522	05/03/2022	3.4	--	650	--	2,500	2.9	7.6 J	3,500	7,500
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1022	10/27/2022	3.5	--	700	--	2,200	2.5	7.5 J	3,200	7,300
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0423	04/26/2023	3.8	--	710	--	2,300	<8	7.5 J	3,100	7,400
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1023	11/21/2023	3.9	--	690	--	2,100	2.6	7.5 J	3,000	7,600
TWX-7	Supplementary	BAP	CH-CCR-P226E-0621	6/1/2021	1.1	--	720	--	2,800	1.9	7.8 J	3,000	8,000
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1021	10/31/2021	2.8	--	670	--	2,600	2.5	7.7 J	3,000	7,400
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0522	05/03/2022	3.3	--	640	--	2,400	2.9	7.6 J	3,300	7,600
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1022	10/27/2022	3.6	--	710	--	2,200	2.4	7.4 J	3,200	7,400
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0423	04/26/2023	3.8	--	720	--	2,200	<8	7.3 J	3,100	7,800
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1023	10/24/2023	3.9	--	690	--	2,100	2.7	7.5 J	2,900	7,700
TWX-8	Supplementary	BAP	CH-CCR-TWX8-1021	10/31/2021	2.9	--	650	--	4,000	2.2	7.5 J	6,300	6,300
TWX-8	Supplementary	BAP	CH-CCR-TWX8-0522	05/03/2022	3.2	--	640	--	2,200	2.2	7.6 J	3,000	8,300
TWX-8	Supplementary	BAP	CH-CCR-TWX8-1022	10/27/2022	3.2	--	710	--	2,300	2.3	7.5 J	3,200	7,600
TWX-9	Supplementary	BAP	CH-CCR-P226G-0621	6/1/2021	0.37	--	760	--	3,000	0.76 J	7.8 J	2,900	8,200
TWX-9	Supplementary	BAP	CH-CCR-TWX9-1021	10/31/2021	2.8	--	690	--	2,700	2.6	7.7 J	4,100	6,900
TWX-9	Supplementary	BAP	CH-CCR-TWX9-0522	05/03/2022	2.9	--	730	--	2,800	2.3	7.7 J	3,200	7,300

**Table D-4
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents									
					Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
Constituent:					N	Y	N	Y	N	N	N	N	N	
Filtered:					N	Y	N	Y	N	N	N	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	
<i>BAP BTV</i>					1.3	1.3	740	740	5,700	0.8	7.4	5,100	15,000	
<i>BAP GWPS</i>					--	--	--	--	--	--	--	--	--	
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Boron	Boron	Calcium	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	
TWX-9	Supplementary	BAP	CH-CCR-TWX9-1022	10/27/2022	3.4	--	740	--	2,500	2.1	7.5 J	3,200	8,700	
TWX-9	Supplementary	BAP	CH-CCR-TWX9-0423	04/26/2023	3.4	--	710	--	2,700	<20	7.6 J	3,100	8,300	
TWX-9	Supplementary	BAP	CH-CCR-TWX9-1023	10/24/2023	2.7	--	770	--	2,600	1.3	7.7 J	2,900	8,600	
TWX-10	Supplementary	BAP	CH-CCR-P226H-0621	6/1/2021	0.32	--	730	--	3,200	0.48 J	7.9 J	3,000	8,700	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-1021	10/31/2021	0.61	--	840	--	9,400	0.62 J	7.6 J	7,000	14,000	
TWX10	Supplementary	BAP	CH-CCR-TWX10-0522	05/03/2022	0.37	--	740	--	3,600	0.74 J	7.6 J	3,100	9,000	
TWX10	Supplementary	BAP	CH-CCR-TWX10-1022	10/27/2022	0.33	--	770	--	3,600	<0.8	7.5 J	3,200	11,000	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-0423	04/26/2023	0.37	--	760	--	3,300	<8	7.7 J	3,000	9,600	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-1023	10/24/2023	0.37	--	750	--	3,100	0.45	7.7 J	2,800	9,300	

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedance are shown in red text.

Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

¹ In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03.

Abbreviations and Data Qualifiers:

< = less than

BAP = Bottom Ash Pond

BTV = Background Threshold Value

CCR - Coal Combustion Residual

degrees C = degrees Celsius

GWPS = Groundwater Protection Standard

ID = Identification

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

mg/L = milligrams per liter

pCi/L = Picocuries per liter

su = standard units

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

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

				Appendix IV Constituents																											
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total	
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BAP BTW					0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.004	0.004	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.002	0.001	0.0001	0.002	0.002	0.0014	0.0014	1.6	
BAP GWPS					0.006	0.006	0.01	0.01	2	2	0.001	0.004	0.005	0.005	0.1	0.1	0.006	0.006	4	0.015	0.015	0.31	0.002	0.001	0.1	0.1	0.05	0.05	0.002	0.002	5
M-64A	Background	FAP/BAP	CH-CCR-M100-217	2/20/2017	<0.0010	--	0.00087	--	0.036	--	<0.0010	0.00011	--	0.0018	--	0.0024	--	<8.0	<0.00050	--	0.26	<0.00020	0.0065	--	0.00074	--	<0.00010	--	0.8		
M-64A	Background	FAP/BAP	CH-CCR-M64A-217	2/20/2017	<0.0010	--	0.00094	--	0.034	--	<0.0010	<0.00010	--	0.0021	--	0.0015	--	<8.0	<0.00050	--	0.27	<0.00020	0.0061	--	0.00082	--	<0.00010	--	0.8		
M-64A	Background	FAP/BAP	CH-CCR-FD02-41217	4/12/2017	<0.0010	--	0.00026	--	0.019	--	<0.0010	<0.00010	--	0.00078	--	0.0082	--	<2.0	<0.00050	--	0.25	<0.00020	0.0053	--	0.00082	--	<0.00010	--	0.6		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41217	4/12/2017	<0.0010	--	0.00026	--	0.019	--	<0.0010	<0.00010	--	0.00015	--	0.00068	--	<8.0	0.00071	--	0.25	<0.00020	0.0050	--	<0.00050	--	<0.00010	--	0.6		
M-64A	Background	FAP/BAP	CH-CCR-M64A-42517	4/25/2017	<0.0010	--	0.00017	--	0.015	--	<0.0010	<0.00010	--	<0.00050	--	0.00056	--	<8.0	<0.00050	--	0.27	<0.00020	0.0050	--	<0.00050	--	<0.00010	--	1.6		
M-64A	Background	FAP/BAP	CH-CCR-M64A-51817	5/18/2017	<0.0010	--	0.00016	--	0.012	--	<0.0010	<0.00010	--	<0.00050	--	0.00052	--	<8.0	<0.00050	--	0.28	<0.00020	0.0042	--	<0.00050	--	<0.00010	--	1.1		
M-64A	Background	FAP/BAP	CH-CCR-FD01-52417	5/24/2017	<0.0010	--	0.00023	--	0.014	--	<0.0010	<0.00010	--	0.00063	--	0.00052	--	<8.0	<0.00020	--	0.27	<0.00020	0.0040	--	<0.00050	--	<0.00040	--	1.3		
M-64A	Background	FAP/BAP	CH-CCR-M64A-52417	5/24/2017	<0.0010	--	0.00019	--	0.014	--	<0.0010	<0.00010	--	<0.00050	--	<0.00050	--	<8.0	<0.00020	--	0.27	<0.00020	0.0051	--	<0.00050	--	<0.00040	--	0.4		
M-64A	Background	FAP/BAP	CH-CCR-M64A-63017	6/30/2017	<0.0010	--	0.00033	--	0.017	--	<0.0010	<0.00010	--	<0.00050	--	0.0011	--	<8.0	<0.00050	--	0.25	<0.00020	0.0050	--	<0.00050	--	<0.00010	--	0.7		
M-64A	Background	FAP/BAP	CH-CCR-FD01-72717	7/27/2017	<0.0020	--	0.00027	--	0.017	--	<0.0010	<0.00020	--	<0.0010	--	<0.0010	--	<8.0	<0.0010	--	0.25	<0.00020	0.0051	--	<0.0010	--	<0.00020	--	0.7		
M-64A	Background	FAP/BAP	CH-CCR-M64A-72717	7/27/2017	<0.0020	--	0.00028	--	0.017	--	<0.0010	<0.00020	--	<0.0010	--	<0.0010	--	<8.0	<0.0010	--	0.25	<0.00020	0.0051	--	<0.0010	--	<0.00020	--	0.7		
M-64A	Background	FAP/BAP	CH-CCR-M64A-90717	9/7/2017	<0.0040	--	0.00025	--	0.017	--	<0.0010	<0.00040	--	<0.0040	--	<0.0020	--	<8.0	<0.0020	--	0.26	<0.00020	0.0059	--	<0.0020	--	<0.00040	--	0.7		
M-64A	Background	FAP/BAP	CH-CCR-M64A-120817	12/8/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-21518	2/15/2018	<0.0020	--	<0.0010	--	0.015	--	<0.0010	<0.0010	--	<0.0020	--	0.0022	--	<0.00050	<8.0	<0.0010	--	0.27	<0.00020	0.0058	--	<0.00050	--	<0.00020	--	0.966	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-51918	5/19/2018	<0.0020	--	0.00012	--	0.012	--	--	<0.0010	<0.0010	--	<0.0010	--	<0.0010	--	<8.0	<0.0010	--	0.26	--	0.0055	--	<0.0010	--	<0.00020	--	0.7	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-102218	10/22/2018	--	--	0.00013	--	0.011	--	--	<0.0010	<0.0010	--	<0.00050	--	<8.0	<0.00050	--	0.25	--	0.0052	--	<0.00050	--	<0.0010	--	--	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD-01-102218	10/22/2018	--	--	0.00011	--	0.011	--	--	<0.0010	<0.0010	--	<0.00050	--	<2.0	<0.00050	--	0.25	--	0.0050	--	<0.00050	--	<0.0010	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-21319	2/13/2019	<0.0010	--	0.00089	--	0.012	--	<0.0010	<0.0010	--	<0.00050	--	<8.0	<0.00050	--	0.29	<0.00020	0.0049	--	0.0052	--	<0.00010	--	<0.0010	--	0.6		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41119	4/11/2019	--	--	0.00058	--	0.011	--	--	<0.0001	<0.001	--	<0.0005	--	<8.0	<0.0005	--	0.27	--	0.0050	--	0.0053	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-41619	4/16/2019	--	--	0.00058	--	0.012	--	--	<0.00010	<0.0010	--	<0.00050	--	<8.0	<0.00050	--	0.25	--	0.0050	--	0.0078	--	<0.00010	--	<0.0010	--	0.7	
M-64A	Background	FAP/BAP	CH-CCR-M64A-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD01-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64A-102419	10/24/2019	<0.0020	--	0.00018	--	0.013 J	--	<0.0010	--	<0.00020	<0.0020	--	<0.0010	--	<8.0	<0.010	--	0.26	<0.00020	0.0059	--	<0.0010	--	<0.00020	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-0520	5/6/2020	--	--	0.00086	0.00050	0.013	--	<0.001	--	<0.0001	<0.001	--	<0.0005	--	<0.0005	<0.0005	<8.0	<0.0005	0.47	--	0.0042	--	<0.001	--	--	--		
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD05-0520	5/6/2020	--	--	<0.001	0.00093	0.012	--	<0.001	--	<0.0001	<0.002	--	<0.001	--	<0.0005	<8.0	<0.0005	0.47	--	0.0043	--	<0.001	--	--	--	--		
M-64A	Background	FAP/BAP	CH-CCR-M64-1020	10/24/2020	<0.002 U	--	0.00036	<0.002 U	0.012	--	<0.001	--	<0.0002	<0.002	--	0.00025	<0.002	0.28	0.0010	--	0.31	--	0.0002	0.0051	--	0.0044	--	<0.0002	--	0.8	
M-64A	Background	FAP/BAP	CH-CCR-M64-0421	4/15/2021	<0.002	--	0.00021	0.0027	0.012	--	<0.001	--	<0.0002	<0.002	--	<0.001	--	<0.001	0.21 J	<0.001	0.30	--	0.0002	0.0049	--	0.0022	--	<0.0002	--	0.7	
M-64A	Background	FAP/BAP	CH-CCR-M64-1021	10/22/2021	0.00013 J	--	<0.0005 U	0.0015	0.012	--	<0.001	--	0.000036 J	0.0005 J	--	<0.0005	0.00091	0.38 J	<0.0005	0.28	--	0.0002	0.0046	--	0.0002 J	--	<0.0001	--	<0.002	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-0422	4/26/2022	0.000054 J	--	0.00015	0.0018	0.011	--	<0.001	--	<0.0001	<0.001	--	<0.001	--	<0.0005	<0.0005	0.34 J	0.28	--	0.0002	0.0041	--	0.00075	--	<0.0001	--	1.0	
M-64A	Background	FAP/BAP	CH-CCR-M64A-1022	10/22/2022	<0.001	--	0.00094	0.00076	0.013	--	<0.001	<0.0001	--	<0.001	--	<0.0005	<0.0005	<8.0	<0.0005	0.25	--	0.0002	0.0042	--	0.00067	--	<0.0001	--	0.6		
M-64A	Background	FAP/BAP	CH-CCR-M64A-0423	04/17/2023	<0.001	--	0.00037	<0.005	0.014	--	<0.001	<0.001	--	<0.001	--	<0.005	<0.005	<10	<0.005	0.29	--	0.0002	0.0044 J	--	<0.005	--	<0.001	--	0.5		
M-64A	Background	FAP/BAP	CH-CCR-M64A-1023	10/11/2023	<0.001	--	0.00073	0.00071	0.012	--	<0.001	<0.001	--	<0.001	--	<0.005	<0.005	<4.0	<0.005	0.28	--	0.0002	<0.005	--	<0.005	--	<0.001	--	0.7		
M-52A	Downgradient Boundary	BAP	7879	12/1/2015	<0.0025	--	0.00050	--	0.027	--	<0.0010	0.00071	--	0.014	--	0.060	--	0.53	<0.00050	--	0.27	<0.00020	0.021	--	0.00074	--	<0.00010	--	0.4		
M-52A	Downgradient Boundary	BAP	CH-M-52A-0316	3/9/2016	<0.015	--	<0.0049	--	0.022	--	<0.0010	0.0012 J	--	<0.0087	--	0.054	--	<2.0	<0.0044	--	0.25	<0.00020	0.016	--	0.0015 J	--	<0.0010	--	0.4		
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-516	5/10/2016	<0.00020	--	0.00010	--	0.023	--	<0.0010	0.00048	--	<0.0010	--	0.043	--	<2.0	<0.0044	--	0.28	<0.00020	0.013	--	<0.0010	--	<0.00020	--	0.6		
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-816	8/26/2016	0.00012	--	<0.00050	--	0.024	--	<0.0010	0.0013	--	0.0012	--	0.061	--	0.97	<0.00050	--	0.24	<0.00020	0.040	--	0.00057	--	<0.00010	--	0.6		
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-916	9/22/2016	<0.00050	--	0.00047	--	0.019	--	<0.0010	0.0014	--	0.0011	--	0.054	--	0.89	0.00048	--	0.24	<0.00020	0.050	--	<0.00060	--	0.00011	--	0.6		
M-52A	Downgradient Boundary	BAP	CH-CCR-M101-217	2/21/2017	<0.0010	--	0.00061	--	0.016	--	<0.0010	0.00055	--	0.0042	--	0.044	--	0.98	<0.00050	--	0.26	<0.00020	0.020	--	0.00065	--	<0.00010	--	0.6		
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-217	2/21/2017	<0.0010	--	0.00071	--	0.016	--	<0.0010	0.00051	--	0.0058	--	0.043	--	0.98	<0.00050	--	0.26	<0.00020	0.021	--	0.00078	--	<0.00010	--	0.6		
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-41117	4/11/2017	<0.0010	--	0.00097	--	0.015	--	<0.0010	0.00048	--	0.019	--	0.045	--	0.80	<0.00050	--	0.24	<0.00020	0.018	--	0.00079	--					

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents																													
Well ID	Designation	CCR Unit	Sample ID	Sample Date	Constituent:	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total			
					Filtered:	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	N	N	N	N	N	N
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
					<i>BAP GWPS</i>																													
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-51817	5/18/2017	<0.0010	--	0.00096	--	0.0079	--	<0.0010	0.0014	--	0.0011	--	0.016	--	2.2	<0.0050	--	0.21	<0.0020	0.041	--	<0.0050	--	<0.0010	--	<0.0010	--	<0.6			
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-52417	5/24/2017	<0.0010	--	0.0011	--	0.0083	--	<0.0010	0.0015	--	0.0014	--	0.016	--	2.4	0.00052	--	0.20	<0.0020	0.043	--	<0.0050	--	<0.0010	--	<0.0010	--	<0.4			
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-70117	7/1/2017	<0.0010	--	0.0011	--	0.0085	--	<0.0010	0.0014	--	0.0014	--	0.016	--	2.6	<0.0050	--	0.20	<0.0020	0.042	--	<0.0050	--	<0.0010	--	<0.0010	--	<0.7			
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-72817	7/28/2017	<0.0020	--	0.0010	--	0.0087	--	<0.0010	0.0014	--	0.0017	--	0.017	--	2.4	<0.0010	--	0.20	<0.0020	0.045	--	<0.0010	--	<0.0020	--	<0.0020	--	<0.6			
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-90717	9/7/2017	<0.0040	--	<0.0020	--	0.0086	--	<0.0010	0.0015	--	0.0014	--	0.017	--	2.3	<0.0020	--	0.20	<0.0020	0.046	--	<0.0020	--	<0.0040	--	<0.0040	--	<0.7			
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-120717	12/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-21518	2/15/2018	<0.0010	--	0.00076	--	0.018	--	<0.0010	0.0012	--	0.0010	--	0.011	--	1.3	<0.0050	--	0.20	<0.0020	0.059	--	0.00057	--	0.00012	--	0.4					
M-53A	Downgradient Boundary	BAP	CH-CCR-FD01-52018	5/20/2018	<0.0010	--	0.0011	--	0.0090	--	--	0.0012	--	0.0015	--	0.015	--	2.6	<0.0050	--	0.20	--	0.044	--	<0.0050	--	<0.0010	--	<0.7					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-52018	5/20/2018	<0.0010	--	0.0011	--	0.0091	--	--	0.0013	--	0.0015	--	0.015	--	2.6	<0.0050	--	0.20	--	0.045	--	<0.0050	--	0.00015	--	<0.7					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-102618	10/26/2018	--	--	0.0012	--	0.0081	--	--	0.0013	--	0.0019	--	0.013	--	2.1	<0.0050	--	0.20	--	0.042	--	<0.0050	--	<0.0010	--	<0.7					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-102618	10/26/2018	--	--	0.0012	--	0.0081	--	--	0.0013	--	0.0019	--	0.013	--	2.1	<0.0050	--	0.20	--	0.042	--	<0.0050	--	<0.0010	--	<0.7					
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD03-12718	12/7/2018	<0.0050	--	<0.0020	--	0.0087	--	--	0.0012	--	0.0050	--	0.013	--	2.3 JJJ	0.0014	--	0.20	<0.0020	0.039	--	<0.0060	--	<0.0010	--	0.9					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-12718	12/7/2018	<0.0050	--	<0.0020	--	0.0085	--	--	0.0014	--	0.0050	--	0.014	--	2.3 JJJ	0.0010	--	0.20	<0.0020	0.042	--	<0.0060	--	<0.0010	--	1.1					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-21519	2/15/2019	<0.0010	--	0.00064	--	0.013	--	<0.0010	0.0011	--	0.0012	--	0.011	--	1.2	<0.0050	--	0.21	<0.0020	0.067	--	0.00078	--	<0.0010	--	0.8					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-41719	4/17/2019	<0.0010	--	0.0011	--	0.0085	--	--	0.0012	--	0.0014	--	0.014	--	2.1	<0.0050	--	0.20	--	0.043	--	<0.0050	--	<0.0010	--	<0.7					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-102319	10/23/2019	<0.0020	--	0.0018	--	0.0099	--	<0.0010	0.0015	--	0.0012	--	0.013	--	2.2 J	0.0010	--	0.20	<0.0020	0.044	--	0.0011	--	0.00022	--	--					
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD03-0420	4/19/2020	--	--	<0.0025	<0.0025	0.0088	--	--	0.0012	--	0.0012	--	0.005	--	0.014	0.014	2.1	0.0005 J	0.27 J	--	0.039	--	<0.0025	--	<0.0010	--	--				
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1020	4/19/2020	--	--	<0.0025	<0.0025	0.0087	--	0.00055 J	0.0012	--	0.0012	--	0.005	--	0.014	0.016	2.1	0.0005	0.27	--	0.038	--	<0.0025	--	<0.0010	--	--				
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1020	10/22/2020	<0.002 U	--	0.0030	0.0028	0.0096	--	<0.0010	0.0011	--	0.0021	--	0.012	0.012	2.5	0.00045 J	0.21	<0.002	0.036	--	0.00048 J	--	0.00011 J	--	<0.8						
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-0421	4/17/2021	<0.002	--	0.0019 J	0.0012	0.0083	--	<0.0010	0.00093	--	0.0020	--	0.012	0.012	2.1	<0.0010	--	0.21	<0.002	0.029	--	0.0010	--	<0.002	--	<0.8					
M-53A	Downgradient Boundary	BAP	*DUP* CH-CCR-FD03-0421	4/17/2021	<0.002	--	0.0024	0.0013	0.0083	--	<0.0010	0.00079	--	0.0017 J	--	0.012	0.012	2.1	<0.0010	--	0.21	<0.002	0.027	--	0.00096 J	--	<0.002	--	<0.7					
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1021	10/28/2021	<0.002 U	--	0.0013	0.0016	0.010	--	<0.0010	0.0012	--	0.0016 J	--	0.012	0.010	2.1	0.00048 J	0.23	<0.002	0.039	--	0.0011	--	0.00058	--	<0.6						
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-0522	05/04/2022	0.00052 J	--	0.0012	0.0021	0.0064	--	<0.0010	0.0011	--	0.0011	--	0.010	0.012	2.1	<0.0005	0.21	<0.002	0.031	--	0.00087	--	<0.0010 U	--	0.8						
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1022	10/23/2022	<0.001	--	0.0012	0.0013	0.0089	--	<0.0010	0.00072	--	0.0011	--	0.0093	0.0095	2.1	<0.0005	0.23	<0.002	0.031	--	0.00057	--	<0.0010	--	<0.6						
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-0423	04/19/2023	0.0017 J	--	<0.005	<0.005	0.0083	--	<0.0010	0.0013	--	<0.0010	--	0.0084	0.0094	2.4	<0.005	0.23	<0.002	0.033	--	<0.005 UJ	--	0.00041 J	--	0.8						
M-53A	Downgradient Boundary	BAP	CH-CCR-M53A-1023	10/19/2023	<0.005	--	0.0031	0.0027	0.012 J	--	<0.0010	0.00069	--	<0.005	--	0.0085	0.0074	2.4	<0.0025	0.28	<0.002	0.035	--	<0.0025	--	<0.0005	--	<0.8						
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-1021	10/30/2021	<0.002 U	--	0.00092 J	0.0013	0.014	--	<0.0010	0.00125	--	0.0011 J	--	0.009	0.017	3.0	<0.0010	0.20	<0.002	0.04	--	0.00032	--	<0.0003 U	--	0.8						
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-0522	5/10/2022	<0.001 U	--	0.0013	0.00069	0.011	--	<0.0010	0.00023	--	0.0014	--	0.016	0.016	3.3	<0.0010	2.0 J	0.13	--	0.00032	--	0.0013	--	0.00083 J	--	0.8					
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-1022	10/24/2022	<0.001	--	0.00091	0.00087	0.014	--	0.0022	0.00026	--	0.0019	--	0.015	0.015	2.7	<0.0005	0.21	<0.002	0.039	--	<0.0005	--	<0.0010	--	0.6						
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-0423	04/19/2023	0.00074 J	--	<0.005	<0.005	0.011	--	<0.0010	0.00032 J	--	<0.0010	--	0.015	0.016	3.1	<0.005	0.21	<0.002	0.032	--	<0.005	--	0.00014 J	--	0.6						
MW-71A	Downgradient Boundary	BAP	CH-CCR-M71A-1023	10/18/2023	<0.005	--	0.0025	0.0026	0.013 J	--	<0.0010	<0.0005	--	<0.005	--	0.014	0.014	3.4	<0.0025	0.25	<0.002	0.034	--	<0.0025	--	<0.0005	--	<0.8						
MW-72M	Downgradient Boundary	BAP	CH-CCR-M72M-1021	10/30/2021	0.00068 J	--	0.015	0.016	0.21	--	<0.002	0.00039	--	0.0023	--	0.0082	0.0083	0.098 J	<0.0010	4.2	<0.002	0.025	--	0.0069	--	0.0013	--	11.2						
MW-72M	Downgradient Boundary	BAP	CH-CCR-M72M-0522	5/10/2022	0.00067 J	--	0.015	0.015	0.20	--	<0.002	0.00041 J	--	<0.0010	--	0.0084	0.0081	1.3	<0.005	4.6 / 3.1	<0.002	0.026	--	0.015	--	0.0016	--	6.8						
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-0522re	5/27/2022	<0.004	--	0.0092	0.010	0.17	--	<0.0010	0.00044 J	--	<0.004	--	0.0053	0.0061	1.6	<0.002	4.6	<0.002	0.021	--	0.0052	--	0.0014	--	--						
MW-72M	Downgradient Boundary	BAP	CH-CCR-S805-0522	5/27/2022	<0.1	--	<0.05	<0.05	0.19	--	<0.0125	<0.0125	--	<0.1	--	0.0387	0.0301	0.29 J	<0.025	4.18	<0.001	0.0295	--	<0.0125	--	<0.025	--	--						
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-1021	10/24/2022	<0.004	--	0.0053	0.0062	0.16	--	<0.004	0.00044	--	<0.004	--	0.0034	0.0025	<0.8	<0.002	3.7	0.00031	0.022	--	0.0030	--	0.0015	--	11.5						
MW-72M	Downgradient Boundary	BAP	CH-CCR-MW72M-0423	04/19/2023	0.0014 J	--	0.0095	0.006																										

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

				Appendix IV Constituents																													
Constituent:				Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total				
Filtered:				N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y				
Units:				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
BAP BTW				0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.0004	0.0004	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.002	0.0061	0.0061	0.002	0.002	0.0014	0.0014	1.6				
BAP GWPS				0.006	0.006	0.01	0.01	2	2	0.001	0.0004	0.0005	0.005	0.1	0.1	0.006	0.006	4	0.015	0.015	0.31	0.002	0.0061	0.0061	0.002	0.002	0.0014	0.0014	5				
Well ID	Designation	CCR Unit	Sample ID	Sample Date	<0.01	--	<0.005	<0.005	0.012 J	--	<0.004	<0.001	<0.001	--	<0.01	--	0.0093	0.011	<2	<0.005	--	0.17	<0.002	0.015	--	<0.005	--	0.0026 J	--	<0.6			
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD02-0423	04/14/2023	<0.01	--	0.0063	0.0062	0.011	--	<0.001	<0.001	<0.01	--	<0.01	--	0.0094	0.0089	0.89	<0.005	--	0.15	<0.002	0.014	--	<0.005	--	<0.001	--	1.5			
MW-79A	Downgradient	BAP	CH-CCR-MW79A-1023	10/13/2023	<0.01	--	0.0063	0.0062	0.011	--	<0.001	<0.001	<0.01	--	<0.01	--	0.0088	0.009	0.52	<0.005	--	0.16	<0.002	0.014	--	<0.005	--	<0.001	--	1.5			
MW-79A	Downgradient	BAP	*DUP* CH-CCR-FD02-1023	10/13/2023	<0.01	--	0.0060	0.0060	0.015	--	<0.001	<0.001	<0.01	--	<0.01	--	0.0088	0.009	0.52	<0.005	--	0.16	<0.002	0.014	--	<0.005	--	<0.001	--	1.5			
W-305	Downgradient Boundary	BAP	--	12/2/2015	<0.0025	--	0.0008	--	0.013	--	<0.0010	0.0022	--	0.0066	--	0.0100	--	1.4	0.0017	--	0.23	<0.0020	0.016	--	0.0024	--	<0.0020	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	3/9/2016	<0.050	--	0.0083	--	0.010	--	<0.0010	<0.0020	--	0.0106	--	0.0160	--	<0.8	<0.01	--	0.21	<0.0020	0.017	--	<0.01	--	<0.02	--	--	--			
W-305	Downgradient Boundary	BAP	--	5/11/2016	<0.0010	--	0.00058	--	0.0059	--	<0.0010	0.0012	--	<0.0050	--	0.0140	--	<2.0	<0.00050	--	0.21	<0.0020	0.014	--	<0.00050	--	<0.0010	--	--	--			
W-305	Downgradient Boundary	BAP	--	8/27/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	9/22/2016	<0.0005	--	0.0006	--	0.011	--	<0.0010	<0.0010	--	0.0098	--	0.0016	--	0.0025	--	0.22	<0.0020	0.024	--	0.0067	--	<0.0010	--	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	2/21/2017	<0.0010	--	0.00066	--	0.012	--	<0.0010	0.00011	--	0.0022	--	0.0180	--	<0.80	0.0021	--	0.22	<0.0020	0.020	--	<0.00050	--	<0.0010	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	4/11/2017	<0.0010	--	0.00098	--	0.012	--	<0.0010	<0.0010	--	0.00092	--	0.0190	--	<0.80	0.0024	--	0.20	<0.0020	0.021	--	<0.00050	--	<0.0010	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	4/24/2017	<0.0010	--	0.00078	--	0.012	--	<0.0010	<0.0010	--	0.0031	--	0.0170	--	<0.80	0.0020	--	0.21	<0.0020	0.020	--	<0.00050	--	<0.0010	--	--	--	--		
W-305	Downgradient Boundary	BAP	--	5/22/2017	<0.0010	--	0.00070	--	0.010	--	<0.0010	<0.0010	--	0.0070	--	0.0160	--	<0.80	0.0017	--	0.20	<0.0020	0.017	--	<0.00050	--	<0.0010	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	--	5/24/2017	<0.0010	--	<0.0020	--	0.012	--	<0.0010	<0.0040	--	0.0040	--	0.0170	--	<0.80	<0.020	--	0.23	<0.0020	0.020	--	<0.0020	--	<0.004	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	--	6/29/2017	<0.0010	--	0.00076	--	0.012	--	<0.0010	<0.0010	--	0.0040	--	0.0180	--	<0.40	0.0025	--	0.21	<0.0020	0.020	--	<0.00050	--	<0.0010	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	--	7/28/2017	<0.0010	--	0.00078	--	0.010	--	<0.0010	<0.0010	--	0.0062	--	0.0170	--	<0.80	0.0021	--	0.21	<0.0020	0.018	--	<0.00050	--	<0.0010	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	--	9/6/2017	<0.0010	--	0.00073	--	0.010	--	<0.0010	0.0001	--	0.0038	--	0.0180	--	<0.80	0.0020	--	0.20	<0.0020	0.018	--	<0.00050	--	<0.0010	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	--	12/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-21518	2/15/2018	<0.0010	--	0.00092	--	0.012	--	<0.0010	<0.0010	--	<0.0010	--	0.017	--	<0.80	0.0020	--	0.21	<0.0020	0.021	--	<0.00050	--	<0.0010	--	--	--	0.643		
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-51918	5/19/2018	<0.0010	--	0.00099	--	0.012	--	<0.0010	<0.0010	--	0.0012	--	0.017	--	<0.80	0.0020	--	0.21	<0.0020	0.020	--	<0.00050	--	<0.0010	--	--	--	0.7		
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-51918	5/19/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W-305-102618	10/26/2018	--	--	0.00092	--	0.011	--	<0.0010	<0.0010	--	0.0012	--	0.018	--	<0.80	0.0019	--	0.20	<0.0020	0.021	--	<0.00050	--	<0.0010	--	--	--	0.0053		
W-305	Downgradient Boundary	BAP	CH-W-305-102618	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-12718	12/7/2018	<0.0050	--	<0.0020	--	0.012	--	<0.0010	<0.0010	--	<0.0050	--	0.018	--	<0.80	0.0030	--	0.21	<0.0020	0.021	--	<0.0060	--	<0.0010	--	--	--	0.8		
W-305	Downgradient Boundary	BAP	CH-CCR-W305-21519	2/15/2019	<0.0010	--	0.00087 J	--	0.011 J	--	<0.0010	<0.0010	--	0.0011 J	--	0.018	--	<0.40	0.0018 J	--	0.22	<0.0020	0.020 J	--	<0.00050	--	<0.0010	--	--	--	0.7		
W-305	Downgradient Boundary	BAP	CH-CCR-W305-41719	4/17/2019	--	--	0.00083	--	0.012	--	<0.0010	<0.0010	--	0.0015	--	0.018	--	<0.80	0.0020	--	0.20	<0.0020	0.022	--	<0.00067	--	<0.0010	--	--	--	0.7		
W-305	Downgradient Boundary	BAP	CH-CCR-W305-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	*DUP* CH-CCR-FD01-102319	10/23/2019	<0.0020	--	0.0015	--	0.013	--	<0.0010	0.00021	--	<0.0020	--	0.018	--	1.3	0.0025	--	0.20	<0.0020	0.022	--	<0.0010	--	<0.0020	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-102319	10/23/2019	<0.0020	--	0.0019	--	0.014	--	<0.0010	0.0022	--	<0.0020	--	0.018	--	<0.80	0.0026	--	0.20	<0.0020	0.022	--	<0.0010	--	<0.0020	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0420	4/18/2020	--	--	<0.0025	<0.0025	0.014	--	<0.0005	<0.0005	--	0.0008	--	0.020	--	0.020	0.020	--	0.30 J	<0.0020	0.021	--	<0.0025	--	<0.001	--	--	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1020	10/22/2020	<0.002	--	0.00068 J	0.0012 J	0.013	--	<0.001	0.00056 J	--	0.0025	--	0.018	0.018	0.39 J	0.021	--	0.22	<0.002	0.022	--	<0.002	--	0.0036	--	<0.002	--	--	--	
W-305	Downgradient Boundary	BAP	CH-CCR-W305-0421	4/17/2021	J	--	0.0018 J	0.0011	0.013	--	<0.001	<0.002	--	0.0012 J	--	0.018	0.017	0.45 J	0.021	--	0.23	<0.002	0.023	--	<0.002	--	0.0012	--	<0.002	--	--	--	0.7
W-305	Downgradient Boundary	BAP	CH-CCR-W305-1021	10/29/2021	<0.002	--	0.0014	0.0014	0.012	--	<0.001	0.00066 J	--	0.0020	--	0.020	0.016	0.32 J	0.023	--	0.22	<0.002	0.026	--	<0.002	--	0.002	--	<0.002	--			

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents																										
Constituent:					Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total	
Filtered:					N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BAP Well					0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.004	0.004	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.002	0.0051	0.0051	0.002	0.002	0.0014	0.0014	1.6	
BAP GWTS					0.006	0.006	0.01	0.01	2	2	0.001	0.005	0.005	0.005	0.1	0.002	0.006	4	0.015	0.015	0.31	0.002	0.0061	0.0061	0.002	0.002	0.0014	0.0014	5		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52417	5/24/2017	<0.0040	--	<0.0020	--	0.013	--	<0.0010	<0.0040	--	<0.0020	--	0.014	--	0.90	<0.0020	--	0.34	<0.0020	0.0085	--	<0.0020	--	<0.0040	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-63017	6/30/2017	<0.0010	--	0.0069	--	0.011	--	<0.0010	0.0020	--	0.0098	--	0.012	--	1.1	<0.0050	--	0.30	<0.0020	0.0080	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-72817	7/28/2017	<0.0010	--	0.0053	--	0.0093	--	<0.0010	0.0018	--	0.0087	--	0.012	--	0.90	<0.0050	--	0.30	<0.0020	0.0071	--	<0.0050	--	<0.0010	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-90717	9/7/2017	<0.0010	--	0.0091	--	0.011	--	<0.0010	0.0018	--	0.0012	--	0.013	--	0.90	<0.0050	--	0.31	<0.0020	0.0080	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-120717	12/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	0.85	--	--	--	--	--	--	--	--	--	--	--		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21518	2/15/2018	<0.0010	--	0.0060	--	0.012	--	<0.0010	0.0019	--	<0.0010	--	0.013	--	1.1	<0.0050	--	0.32	<0.0020	0.0085	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52018	5/20/2018	<0.0020	--	<0.0010	--	0.011	--	<0.0020	<0.0020	--	<0.0020	--	0.013	--	1.3	<0.0010	--	0.32	--	0.0093	--	<0.0010	--	<0.0020	--	0.2		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-102418	10/24/2018	--	--	0.0073	--	0.011	--	--	0.0019	--	0.0013	--	0.015	--	0.83	<0.0050	--	0.30	--	0.0087	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-120418	12/8/2018	<0.0050	--	<0.0020	--	0.013	--	<0.0010	<0.0010	--	0.014	--	0.014	--	0.89 J,U	<0.0010	--	0.32	<0.0020	0.0087	--	<0.0060	--	<0.0010	--	0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21519	2/15/2019	<0.0010	--	0.0011	--	0.011	--	<0.0010	0.0017	--	0.046	--	0.016	--	0.82	<0.0050	--	0.34	<0.0020	0.012	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-41619	4/16/2019	--	--	<0.0050	--	0.012	--	--	0.0021	--	0.094	--	0.016	--	0.87	<0.0050	--	0.29	--	0.026	--	<0.0050	--	<0.0010	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.30	--	0.026	--	--	--	--	--	--		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-102419	10/24/2019	<0.0020	--	0.0015	--	0.013	--	<0.0010	0.0036	--	0.0081	--	0.019	--	<0.80 UJ	<0.0010	--	0.30	<0.0020	0.011	--	<0.0010	--	<0.0020	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0420	4/19/2020	<0.002	--	<0.0025	<0.0025	0.011	--	<0.0005	<0.0005	--	0.010	--	0.022	0.023	0.84	<0.0025	--	0.44 J	--	0.010	--	<0.0025	--	<0.0005	--	--		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1020	10/23/2020	<0.002	--	0.0019	0.0016 J	0.011	--	<0.001	0.0031	--	0.0091	--	0.024	0.025	0.90	0.00058 J	--	0.31	<0.002	0.011	--	0.002	--	0.002	--	<0.8		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0421	4/16/2021	<0.002	--	0.0020	0.0011	0.013	--	<0.001	<0.002	--	0.032	--	0.029	0.027	1.1	<0.01	--	0.32	<0.002	0.015	--	0.0018	--	<0.002	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1021	10/29/2021	<0.001 U	--	<0.0013 U	<0.0017 U	0.011	--	<0.001	0.0043	--	0.071	--	0.036	0.028	1.1	0.00088	--	0.30	<0.002	0.016	--	0.0076	--	0.00021 J	--	<0.7		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0522	5/11/2022	<0.001 U	--	0.0014	0.0014	0.011	--	<0.001	0.0041	--	0.063	--	0.032	0.033	1.0	0.00065	--	0.30 / 0.24	<0.002	0.037	--	0.0010	--	<0.001	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1022	10/25/2022	<0.001	--	0.0073	0.0071	0.010	--	<0.001	0.0043	--	0.0015	--	0.033	0.035	1.0	0.00089	--	0.30	<0.002	0.012	--	<0.0005	--	<0.001	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0423	04/20/2023	<0.1	--	<0.005	<0.005	0.0096	--	<0.001	0.0053 J	--	0.014	--	0.042	0.047	<4	<0.005	--	0.30	<0.002	0.013	--	<0.005	--	<0.001	--	<0.6		
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1023	10/18/2023	<0.005	--	0.0025	0.0025	0.009 J	--	<0.001	0.0059	--	0.039	--	0.045	0.047	<0.87	<0.0025	--	0.36	<0.002	0.019	--	<0.0025	--	<0.005	--	<0.8		
TDX-3'	Extraction Well	BAP	CH-BAPD-BSX01-0621	6/14/2021	--	--	0.0019	--	--	--	--	--	--	--	--	0.014	--	1.7	--	--	0.23	--	0.065	--	--	--	--	--	--		
TDX-3'	Extraction Well	BAP	CH-CRT-BSX01-0621_062221	6/22/2021	--	--	--	--	--	--	--	--	--	--	--	0.012	--	--	--	--	--	--	--	--	--	--	--	--	--		
TDX-4'	Extraction Well	BAP	CH-CCR-BSX01-0821	8/2/2021	<0.001 U	--	0.0029	0.0032	0.018	--	<0.001	0.0045	--	0.0098 J	--	0.013	0.013	2.5	<0.0005	--	0.22	<0.002	0.050	--	0.0082	--	<0.001	--	<0.6		
TDX-5'	Extraction Well	BAP	CH-CCR-BSX02-0821	8/2/2021	<0.001 U	--	0.0017	0.0018	0.014	--	<0.001	0.0011	--	0.0072 J	--	0.024	0.026	0.85	0.00081	--	0.23	<0.002	0.053	--	0.0074	--	<0.001	--	<0.6		
TDX-5'	Extraction Well	BAP	CH-CRT-BSX03-0821_082321	8/23/2021	--	--	--	--	--	--	--	--	--	--	--	0.047	--	--	--	--	--	--	--	--	--	--	--	--	--		
TDX-5'	Extraction Well	BAP	CH-CRT-BSX03-0821_082321	8/23/2021	--	--	--	--	--	--	--	--	--	--	--	0.022	--	--	--	--	--	--	--	--	--	--	--	--	--		
TDX-5'	Extraction Well	BAP	CH-CCR-BSX03-0821	8/2/2021	<0.001 U	--	0.0025	0.0026	0.017	--	<0.001	0.0010	--	0.011	--	0.048	0.046	2.9	<0.0005	--	0.21	<0.002	0.062	--	0.0010	--	<0.001	--	<0.6		
BSX-04	Supplementary	BAP	0621_062721_AM	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	0.025	--	--	--	--	--	--	--	--	--	--	--	--	--		
BSX-04	Supplementary	BAP	0621_062721_PM	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	0.027	--	--	--	--	--	--	--	--	--	--	--	--	--		
BSX-04	Supplementary	BAP	CH-CCR-BSX04-0821	8/3/2021	<0.001 U	--	0.0029	0.0033	0.013	--	<0.001	0.0041	--	0.012	--	0.025	0.030	0.99	0.00028 J	--	0.23	<0.002	0.041	--	0.0014	--	<0.001	--	0.4 J		
BSX-05	Supplementary	BAP	CH-CCR-BSX05-0821	8/3/2021	<0.001 U	--	0.0049	0.0056	0.024	--	<0.001	0.000087 J	--	0.0013	--	0.019	0.019	2.4	0.00045 J	--	0.20	<0.002	0.037	--	0.0096	--	<0.001	--	<0.6		
M-55A	Supplementary	BAP	7877	12/1/2015	<0.0025	--	0.0030	--	0.046	--	<0.0010	<0.0010	--	0.0017	--	0.0071	--	0.57	0.00094	--	0.33	<0.0020	0.048	--	0.082	--	<0.0010	--	<0.9		
M-55A	Supplementary	BAP	CH-M-55A-0316	3/9/2016	<0.015	--	<0.0049	--	0.021	--	<0.0010	<0.00046	--	<0.0087	--	<0.0013	--	<0.80	<0.0044	--	0.31	<0.0020	0.040	--	0.069	--	<0.0020	--	0.9		
M-55A	Supplementary	BAP	CH-CCR-M55A-516	5/10/2016	0.00029	--	0.0028	--	0.016	--	<0.0010	<0.00020	--	0.0017	--	<0.0010	--	<2.0	<0.0010	--	0.34	<0.0020	0.043	--	0.075	--	<0.0020	--	<0.5		
M-55A	Supplementary	BAP	CH-CCR-M55A-816	8/26/2016	0.00047	--	0.0033	--	0.017	--	<0.0010	0.0019	--	0.0013	--	<0.00050	--	<0.80	<0.00050	--	0.33	<0.0020	0.031	--	0.087	--	<0.0010	--	<0.6		
M-55A	Supplementary	BAP	CH-CCR-M55A-916	9/22/2016	<0.00050	--	0.00023	--	0.014	--	<0.0010	<0.00010	--	0.0091	--	0.0074	--	<0.80	<0.00010	--	0.36	<0.0020	0.059	--	0.065	--	<0.0010	--	0.8		
M-55A	Supplementary	BAP	CH-CCR-M55A-217	2/21/2017	<0.0010	--	0.0023	--	0.014	--	<0.0010	<0.0																			

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

				Appendix IV Constituents																								
Constituent: Filtered:	Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total Radium			
	N	Y	N	Y	N	Y	N	N	Y	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	µCi/L		
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L		
BAP BTW	0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.0004	0.0004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.0002	0.0001	0.0001	0.002	0.002	0.0014	0.0014	1.6			
BAP GWPS	0.006	0.006	0.01	0.01	2	2	0.004	0.005	0.005	0.1	0.1	0.006	0.006	4	0.015	0.015	0.31	0.002	0.001	0.1	0.05	0.05	0.002	0.002	5			
Well ID	Designation	CCR Unit	Sample ID	Sample Date																								
W-301	Supplementary	BAP	CH-CCR-W301-8919	8/9/2019																								
W-301	Supplementary	BAP	CH-CCR-W301-102319	10/23/2019	<0.0020	--	--	0.0030	--	--	0.0092	--	--	<0.0010	--	--	<0.0040	--	--	--	--	--	--	--	--	--		
W-301	Supplementary	BAP	CH-CCR-W301-0420	4/18/2020	--	--	0.0025	<0.0025	0.0082	--	--	0.00063 J	--	--	0.0005	--	--	0.52	--	--	0.0069	--	--	0.0056	--	<0.0020		
W-301	Supplementary	BAP	CH-CCR-W301-1020	10/22/2020	<0.002	--	0.0032	0.0017 J	0.0083	--	--	0.00016 J	--	--	0.00089 J	--	--	0.22	0.022	0.33 J	--	--	0.57	--	0.0035	--	0.000086 J	
W-301	Supplementary	BAP	CH-CCR-W301-0421	4/17/2021	<0.002	--	0.0028	0.0020	0.0093	--	--	<0.001	--	--	0.029	--	--	0.23	0.022	0.34 J	--	--	0.58	--	0.0072	--	<0.002	
W-301	Supplementary	BAP	CH-CCR-W301-1021	10/28/2021	<0.002 U	--	0.0025	0.0026	0.0085	--	--	0.00017 J	--	--	0.0091	--	--	0.25	0.021	0.13 J	--	--	0.57	--	0.0002	0.0074		
W-301	Supplementary	BAP	CH-CCR-W301-0522	05/03/2022	0.000099 J	--	0.002 J	0.0031 J	0.0082	--	--	<0.001	--	--	0.0075	--	--	0.21	0.023	0.43 J	--	--	0.57	--	0.0002	0.0062		
W-301	Supplementary	BAP	CH-CCR-W301-1022	10/22/2022	<0.001	--	0.0017	0.0018	0.0082	--	--	<0.001	--	--	0.0089	--	--	0.22	0.023	<4	--	--	0.60	--	0.0002	0.0061		
W-301	Supplementary	BAP	CH-CCR-W301-0423	04/18/2023	0.00056 J	--	<0.005	<0.005	0.0096	--	--	<0.001	--	--	0.00025 J	--	--	0.27	0.022	<4	--	--	0.63	--	0.0002	0.0076		
W-301	Supplementary	BAP	CH-CCR-W301-1023	10/19/2023	<0.005	--	0.0037	0.0035	0.0072 J	--	--	<0.001	--	--	0.0043	--	--	0.23	0.022	<4	--	--	0.67	--	0.0002	0.0059		
W-302	Supplementary	BAP	CH-CCR-W302-1023	12/7/2018	<0.0050	--	<0.0020	--	0.014	--	--	<0.0010	--	--	0.0099	--	--	0.98 J UJ	--	--	0.32	--	--	0.00020	0.068	--	<0.0010	
W-302	Supplementary	BAP	CH-CCR-W302-21519	2/15/2019	<0.0010	--	0.0043	--	0.36	--	--	0.00089	--	--	0.020	--	--	0.22	--	--	0.37	--	--	0.00022	0.0039	--	0.00035	
W-302	Supplementary	BAP	CH-CCR-W302-4119	4/17/2019	--	--	0.0076	--	0.15	--	--	<0.0010	--	--	0.054	--	--	0.80	--	--	0.31	--	--	0.016	--	<0.0050		
W-302	Supplementary	BAP	CH-CCR-W302-8919	8/9/2019	--	--	--	--	--	--	--	--	--	--	0.80	--	--	0.80	--	--	0.31	--	--	0.016	--	<0.0050		
W-302	Supplementary	BAP	CH-CCR-W302-102319	10/23/2019	<0.0020	--	0.0015	--	0.014	--	--	<0.0010	--	--	0.019	--	--	0.055	--	--	0.32	--	--	0.015	--	<0.0010		
W-302	Supplementary	BAP	CH-CCR-W302-0420	4/17/2020	--	--	<0.0025	<0.0025	0.013	--	--	<0.0005	--	--	0.086	--	--	0.064	0.064	0.97	--	--	<0.2	--	0.012	--	<0.0025	
W-302	Supplementary	BAP	CH-CCR-W302-1020	10/23/2020	<0.002	--	0.0013	0.0015 J	0.014	--	--	<0.001	--	--	0.031	--	--	0.052	0.056	0.82	0.00066 J	--	--	0.37	--	<0.0002	0.0085	
W-302	Supplementary	BAP	CH-CCR-W302-0421	4/17/2021	<0.002	--	0.0021	0.0013	0.014	--	--	<0.001	--	--	0.025	--	--	0.048	0.047	0.95	<0.001	--	--	0.40	--	<0.0002	0.0084	
W-302	Supplementary	BAP	CH-CCR-W302-1021	10/30/2021	<0.002	--	0.0017	0.0017	0.015	--	--	<0.001	--	--	0.050	--	--	0.064	0.056	0.72 J	--	--	0.39	--	0.0002	0.013		
W-302	Supplementary	BAP	CH-CCR-W302-0522	5/11/2022	<0.001 U	--	0.0015	0.001	0.015	--	--	<0.001	--	--	0.026	--	--	0.068	0.066	0.90	<0.0005	--	--	0.39 / 0.24	--	<0.0002	0.0099	
W-302	Supplementary	BAP	CH-CCR-W302-1022	10/25/2022	<0.001	--	0.0066	0.0062	0.012	--	--	<0.001	--	--	0.014	--	--	0.056	0.053	<4	<0.0005	--	--	0.41	--	<0.0002	0.0030	
W-302	Supplementary	BAP	CH-CCR-W302-0423	04/24/2023	<0.01	--	<0.002	<0.002	0.012	--	--	<0.01	--	--	0.013	--	--	0.069	0.069	<4	<0.0002	--	--	0.40	--	<0.0002	0.0031 J	
W-302	Supplementary	BAP	CH-CCR-W302-1023	10/12/2023	<0.1	--	0.0063	0.0062	0.016	--	--	<0.001	--	--	0.048	--	--	0.065	0.066	0.11	<0.005	--	--	0.41	--	<0.0002	0.0080	
W-303	Supplementary	BAP	CH-CCR-W303-1020	10/22/2020	<0.002 U	--	0.0014	0.0023	0.0046	--	--	<0.001	--	--	0.000088 J	--	--	0.25	--	--	0.32	--	--	0.0002	0.019	--	<0.0002	
W-303	Supplementary	BAP	CH-CCR-W303-0421	4/17/2021	<0.002	--	0.0019 J	0.0013	0.0046	--	--	<0.001	--	--	0.036	--	--	0.22	0.023	0.48 J	--	--	0.32	--	0.0002	0.019		
W-303	Supplementary	BAP	CH-CCR-W303-1021	10/28/2021	<0.002	--	0.0018	0.0018	0.0034	--	--	<0.001	--	--	0.010	--	--	0.22	0.019	0.32	<0.001	--	--	0.39	--	<0.0002	0.059	
W-303	Supplementary	BAP	CH-CCR-W303-1022	10/23/2022	<0.001	--	0.0012	0.0012	0.0028	--	--	<0.001	--	--	0.009	--	--	0.21	0.020	<0.8	<0.0005	--	--	0.40	--	<0.0002	0.080	
W-303	Supplementary	BAP	CH-CCR-W303-0522	05/04/2022	0.00015 J	--	0.0012	0.00082	0.0043	--	--	<0.001	--	--	0.0055	--	--	0.019	0.019	0.87 J	--	--	0.36	--	<0.0002	0.032		
W-303	Supplementary	BAP	CH-CCR-W303-0423	04/18/2023	0.00049 J	--	0.0027	<0.005	0.0044 J	--	--	<0.001	--	--	0.011	--	--	0.020	0.019	<4	<0.005	--	--	0.30	--	<0.0002	0.027	
W-303	Supplementary	BAP	CH-CCR-W303-1023	10/19/2023	<0.005	--	0.0027	0.0028	0.0037 J	--	--	<0.001	--	--	0.014	--	--	0.23	0.020	<4	<0.0025	--	--	0.48	--	<0.0002	0.031	
W-304	Supplementary	BAP	CH-CCR-W304-12718	12/7/2018	<0.0050	--	<0.0020	--	0.0083	--	--	<0.0010	--	--	0.034	--	--	0.80 J UJ	--	--	0.40	--	--	0.00020	0.026	--	<0.0050	
W-304	Supplementary	BAP	CH-CCR-W304-21519	2/15/2019	<0.0010	--	0.0020	--	0.11	--	--	<0.0010	--	--	0.029	--	--	0.80	<0.00050	--	--	0.48	--	0.00020	0.0017	--	0.00059	
W-304	Supplementary	BAP	CH-CCR-W304-41619	4/16/2019	--	--	<0.00050	--	0.0089	--	--	<0.0010	--	--	0.020	--	--	0.80	<0.00050	--	--	0.41	--	0.0048	--	0.00066		
W-304	Supplementary	BAP	CH-CCR-W304-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
W-304	Supplementary	BAP	*DUP* CH-CCR-FD02-102419	10/24/2019	<0.010	--	0.0093	--	0.15	--	--	<0.0010	--	--	0.016	--	--	0.029	--	<0.80 UJ	--	--	0.45	--	<0.00020	0.0036	--	<0.0050
W-304	Supplementary	BAP	CH-CCR-W304-102419	10/24/2019	<0.0020	--	0.0014	--	0.014	--	--	<0.0010	--	--	0.028	--	--	0.80	<0.00020	--	--	0.45	--	0.00020	0.0042	--	0.0012	
W-304	Supplementary	BAP	CH-CCR-W304-0420	4/17/2020	--	--	<0.0025	0.0029	0.0069	--	--	<0.0005	--	--	0.005	--	--	0.030	0.032	<0.8	<0.0005	--	--	0.46 J	--	0.0046	--	<0.0025
W-304	Supplementary	BAP	CH-CCR-W304-1020	10/23/2020	<0.002	--	0.0010	<0.002	0.0091	--	--	<0.001	--	--	0.0013 J	--	--	0.029	0.034	0.25 J	--	--	0.45	--	<0.0002	0.0028	--	0.00021 J
W-304	Supplementary	BAP	CH-CCR-W304-0421	4/18/2021	<0.002	--	0.0016 J	0.0070	0.0070	--	--	<0.001	--	--	0.0079	--	--	0.040	0.036	0.14 J	--	--	0.42	--	<0.0002	0.0046	--	0.0016
W-304	Supplementary	BAP	CH-CCR-W304-1021	10/28/2021	<0.002	--	0.00098 J	0.0090	0.0070	--	--	<0.001	--	--	0.000046 J	--	--	0.038	--	0.26 J	--	--	0.39	--	<0.0002	0.004	--	0.0023
W-304	Supplementary	BAP	CH-CCR-W304-0522	5/11/2022	<0.001	--	0.00098	0.00084	0.0087	--	--	<0.001	--	--	0.000053 J	--	--	0.018	--	0.009	0.0088	0.49 J	0.00026 J	--	0.38 / 0.33	--		

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents																								
Constituent: Filtered:	Antimony N	Antimony Y	Arsenic N	Arsenic Y	Barium N	Barium Y	Beryllium N	Cadmium N	Cadmium Y	Chromium N	Chromium Y	Cobalt N	Cobalt Y	Fluoride N	Lead N	Lead Y	Lithium N	Mercury N	Molybdenum N	Molybdenum Y	Selenium N	Selenium Y	Thallium N	Thallium Y	Total Radium pCi/L				
																										Units:	mg/L	mg/L	mg/L
BAP BTW	0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.0004	0.0004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.002	0.0061	0.0061	0.002	0.002	0.0014	0.0014	1.6				
BAP GWPS	0.006	0.006	0.01	0.01	2	2	0.001	0.0004	0.005	0.1	0.1	0.006	0.006	4	0.015	0.015	0.31	0.002	0.0061	0.002	0.05	0.05	0.002	0.002	5				
Well ID	Designation	CCR Unit	Sample ID	Sample Date	<0.001 U	--	<0.0013 U	0.0019	0.0077	--	<0.001	0.00004 J	--	0.0086	--	0.0021	0.0021	0.54 J	<0.0005	--	0.41	<0.0002	0.0025	--	0.0026	--	0.00013	--	1.3
W-308	Supplementary	BAP	CH-CCR-W308-1021	10/28/2021	<0.001 U	--	0.0015	0.0011	0.0073	--	<0.001	0.000057 J	--	0.015	--	0.00094	0.00086	0.40 J	<0.0005	--	0.41 / 0.3	<0.0002	0.0036	--	0.0043	--	<0.0001	--	<0.6
W-308	Supplementary	BAP	CH-CCR-W308-1022	10/26/2022	<0.001 U	--	0.00070	0.00054	0.0075	--	<0.001	<0.0001	--	0.0086	--	0.00096	0.0008	<0.0005	--	0.43	<0.0002	0.0030	--	0.0034	--	<0.0001	--	<0.6	
W-308	Supplementary	BAP	CH-CCR-W308-0423	04/20/2023	0.0008 J	--	<0.005	<0.005	0.012	--	<0.001	<0.001	--	0.012	--	<0.005	0.0013 J	<4	<0.005	--	0.43	<0.0002	0.0031	--	<0.005	--	0.00013 J	--	<0.6
W-308	Supplementary	BAP	CH-CCR-W308-1023	10/12/2023	<0.001 U	--	0.00089	0.00078	0.0075	--	<0.001	<0.001	--	0.0092	--	0.0016	0.0014	<0.4	<0.0005	--	0.42	<0.0002	0.0015	--	0.0025	--	<0.0001	--	<0.6
W-309	Supplementary	BAP	CH-CCR-W309-12818	12/8/2018	<0.0050	--	0.0044	--	0.011	--	<0.010	<0.010	--	<0.020	--	1.0 J/UJ	<0.010	<0.20	<0.00020	--	0.24	<0.0020	0.028	--	0.19	--	<0.0010	--	<0.7
W-309	Supplementary	BAP	CH-CCR-W309-21519	2/15/2019	<0.0010	--	0.0047	--	0.0083	--	<0.0010	<0.0010	--	<0.0050	--	1.1	<0.0050	<0.20	<0.00020	--	0.35	<0.0020	0.024	--	0.16	--	<0.0010	--	<0.7
W-309	Supplementary	BAP	CH-CCR-W309-41619	4/16/2019	--	--	0.0051	--	0.0062	--	<0.0010	<0.0010	--	<0.0010	--	1.0	<0.0050	<0.30	<0.00020	--	0.30	<0.0020	0.061	--	0.22 J	--	<0.0010	--	<0.7
W-309	Supplementary	BAP	CH-CCR-W309-62519	6/25/2019	--	--	--	--	--	--	<0.0010	<0.0010	--	0.0033	--	--	--	--	--	--	--	--	--	--	--	--	<0.0010	--	<0.7
W-309	Supplementary	BAP	CH-CCR-W309-102419	8/8/2019	--	--	--	--	--	--	<0.0010	<0.0010	--	--	--	1.1	--	--	--	--	--	--	--	--	--	--	<0.0010	--	<0.7
W-309	Supplementary	BAP	CH-CCR-W309-102419	10/24/2019	<0.0020	--	0.0066	--	0.0079	--	<0.0010	<0.0020	--	0.0020	--	<0.0010	--	1.1 J	<0.0010	--	0.31	<0.0020	0.011	--	0.18	--	<0.0020	--	<0.8
W-309	Supplementary	BAP	CH-CCR-W309-0520	5/4/2020	<0.001	--	0.0047	0.0038	0.0070	--	<0.001	<0.002	--	0.0052	--	<0.0005	1.2	<0.001	--	0.50	<0.002	0.010	--	0.20	--	<0.001	--	<0.8	
W-309	Supplementary	BAP	CH-CCR-W309-1020	10/24/2020	<0.002	--	0.0089	0.0093	0.0071	--	<0.001	0.000066 J	--	0.11	--	0.0006 J	0.00038 J	1.1	<0.001	--	0.33	<0.0002	0.017	--	0.21	--	0.000052 J	--	<0.8
W-309	Supplementary	BAP	CH-CCR-W309-0421	4/18/2021	J	--	0.0015 J	J	0.0076	--	<0.001	<0.002	--	0.042	--	<0.001 U	1.0	<0.001	--	0.36	<0.0002	0.010	--	0.20	--	<0.0002	--	<0.7	
W-309	Supplementary	BAP	CH-CCR-W309-1021	10/27/2021	<0.001 U	--	<0.0013 U	0.0020	0.0067	--	<0.001	0.000059 J	--	0.015	--	<0.0005 U	0.0002 J	1.3	<0.0005	--	0.33	<0.0002	0.0083	--	0.20	--	0.000094 J	--	0.4
W-309	Supplementary	BAP	CH-CCR-W309-0522	5/12/2022	<0.001 U	--	0.0011 U	0.00095	0.0069	--	<0.001	0.000071 J	--	0.020	--	0.00040 J	0.00031 J	1.3	<0.0005	--	0.34 / 0.27	<0.0002	0.0093	--	0.22	--	0.000037 J	--	0.7
W-309	Supplementary	BAP	CH-CCR-W309-0423	04/20/2023	<0.01	--	<0.005	<0.005	0.0071	--	<0.001	<0.001	--	0.011	--	<0.005	<0.005	<4	<0.005	--	0.37	<0.0002	0.0084	--	0.15	--	<0.001	--	<0.6
W-309	Supplementary	BAP	CH-CCR-W309-1023	10/12/2023	<0.001	--	0.0011	0.00099	0.0071	--	<0.001	<0.001	--	0.016	--	<0.0005	<0.0005	1.1	<0.0005	--	0.35	<0.0002	0.0088	--	0.16	--	<0.0001	--	<0.7
W-317	Supplementary	BAP	CH-CCR-W317-33019	3/30/2019	<0.0010	--	0.0036	--	0.039	--	<0.0010	<0.0010	--	0.0035	--	0.00085	--	<0.40	<0.00050	--	<0.20	<0.00020	0.064	--	<0.0050	--	<0.0010	--	--
W-317	Supplementary	BAP	*DUP* CH-CCR-FD03-41719	4/17/2019	--	--	0.0039	--	0.039	--	<0.00010	<0.00010	--	0.0010	--	<0.00050	--	<0.80	<0.00050	--	<0.20	--	0.0028	--	<0.0050	--	<0.0010	--	--
W-317	Supplementary	BAP	CH-CCR-W317-41719	4/17/2019	--	--	0.0035	--	0.032	--	<0.00010	<0.00010	--	0.0010	--	<0.00050	--	<0.80	<0.00050	--	<0.20	--	0.0028	--	<0.0050	--	<0.0010	--	--
W-317	Supplementary	BAP	*DUP* CH-CCR-FD01-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	BAP	CH-CCR-W317-8919	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	BAP	CH-CCR-W317-102419	10/24/2019	<0.0010	--	0.0043	--	0.036	--	<0.0010	<0.0010	--	0.0012	--	<0.00050	--	<0.40 UJ	<0.00050	--	<0.20	<0.00020	0.0046	--	<0.0050	--	<0.0010	--	--
W-317	Supplementary	BAP	CH-CCR-W317-0420	4/16/2020	--	--	0.0038	--	0.031	--	<0.0005	<0.0005	--	<0.005	--	<0.0025	--	<0.8	<0.0002	--	0.042 J	--	0.0037	--	<0.0025	--	<0.0001	--	--
W-317	Supplementary	BAP	CH-CCR-W317-1020	10/21/2020	<0.004	--	0.0046	--	0.036	--	0.0001 J	<0.0004	--	0.0079	--	0.00073 J	--	0.36 J	<0.0005	--	0.064	<0.0002	0.0041	--	0.0028	--	<0.0004	--	<0.8
W-317	Supplementary	BAP	CH-CCR-W317-0421	4/14/2021	<0.002	--	0.0079	--	0.034	--	<0.001	<0.002	--	0.0055	--	<0.001	--	0.35 J	<0.001	--	0.060	<0.0002	0.0030	--	0.0096 J	--	<0.0002	--	<0.7
W-317	Supplementary	BAP	CH-CCR-W317-1021	10/21/2021	<0.001 U	--	0.0052	--	0.031	--	<0.0001	0.000039 J	--	0.0046	--	<0.0005 U	--	0.34 J	<0.0005	--	0.058	<0.0002	0.0025	--	0.0063	--	<0.0004	--	0.4
W-317	Supplementary	BAP	CH-CCR-W317-0422	4/26/2022	<0.001	--	0.0047	--	0.030	--	<0.001	<0.001	--	0.0037	--	<0.0005	--	0.35 J	<0.0005	--	0.06	<0.0002 U	0.0022	--	0.0005	--	<0.0001	--	1.1
W-317	Supplementary	BAP	CH-CCR-W317-1022	10/19/2022	<0.001	--	0.0044	--	0.032	--	<0.001	<0.001	--	0.0029 J	--	<0.0005	--	<0.8	<0.0005	--	0.065	<0.0002	0.0018	--	0.0005	--	<0.0001	--	0.6
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-1022	10/19/2022	<0.001	--	0.0042	--	0.033	--	<0.001	<0.001	--	0.0055 J	--	<0.0005	--	<0.0005	--	0.063	<0.0002	0.0020	--	0.0005	--	<0.0001	--	0.4	
W-317	Supplementary	BAP	CH-CCR-W317-1022-SD	10/19/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.9
W-317	Supplementary	BAP	CH-CCR-W317-0423	04/14/2023	<0.01	--	0.0032 J	--	0.035	--	<0.001	<0.001	--	<0.01	--	<0.005	--	<2	<0.005	--	0.073	<0.0002	<0.005	--	<0.005	--	0.00031 J	--	1.2
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-0423	04/14/2023	<0.01	--	<0.005	--	0.035	--	<0.001	<0.001	--	<0.01	--	<0.005	--	<2	<0.005	--	0.075	<0.0002	<0.005	--	<0.005	--	<0.001	--	<0.6
W-317	Supplementary	BAP	CH-CCR-W317-1023	10/11/2023	<0.001	--	0.0046	--	0.032	--	<0.001	<0.001	--	<0.001	--	<0.0005	--	<0.4	<0.0005	--	0.056	<0.0002	0.0016	--	<0.0005	--	<0.0001	--	1.1
W-317	Supplementary	BAP	*DUP* CH-CCR-FD04-1023	10/11/2023	<0.001	--	0.0043	--	0.033	--	<0.001	<0.001	--	<0.001	--	<0.0005	--	<0.4	<0.0005	--	0.055	<0.0002	0.0016	--	<0.0005	--	<0.0001	--	0.5
BAP	Supplementary	BAP	CH-BAP-01052012	1/5/2012	--	--	--	--	--	--	<0.0010	<0.0010	--	--	--	<0.4													

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents																									
Constituent:					Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total Radium	
Filtered:					N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	Y	N	N	N	N	N	Y	N	Y	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BAP BTW					0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.004	0.004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.0002	0.0061	0.002	0.002	0.0014	0.0014	1.6		
BAP GWPS					0.006	0.006	0.01	0.01	2	2	0.004	0.005	0.005	0.1	0.002	0.006	4	0.015	0.015	0.31	0.002	0.1	0.05	0.05	0.05	0.002	0.002	5		
Well ID	Designation	CCR Unit	Sample ID	Sample Date																										
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-0423	04/26/2023	<0.01	--	0.0039	<0.002	0.013	--	<0.001	<0.002	--	0.0056 J	--	0.014	0.013	<8	<0.002	--	0.23	--	0.019	--	<0.01	--	<0.002	--	--	
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-1023	10/24/2023	<0.001	--	0.0012	0.00075	0.0020	--	<0.001	<0.001	--	<0.001	--	0.0024	0.0024	32	<0.0005	--	0.20	<0.0002	0.0037	--	<0.0005	--	<0.0001	--	--	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1021	6/1/2021	<0.00024 U	--	0.0014	--	0.0095	--	<0.001	0.00035	--	0.0057	--	0.014	0.014	3.3	0.0052	--	0.21	<0.0002	0.036	--	0.002	--	<0.000083 U	--	<0.8	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1021	10/31/2021	<0.002	--	0.0017	0.0024	0.0090	--	<0.001	0.00052	--	0.011	--	0.017	0.015	2.8	0.0050	--	0.20	<0.0002	0.049	--	0.0027	--	0.000092 J	--	--	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0522	05/03/2022	0.00011 J	--	0.001	0.00058	0.011	--	<0.001	0.00031	--	0.0052	--	0.014	0.014	3.1	0.00072	--	0.21	--	0.031	--	0.0013	--	0.000083 J	--	--	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1022	10/27/2022	<0.001	--	0.00085	0.00069	0.013	--	<0.001	0.00019	--	0.011	--	0.013	0.013	3.0	0.0011	--	0.20	<0.0002	0.038	--	0.0016	--	<0.0001	--	--	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0423	04/26/2023	<0.01	--	0.0014 J	0.0012 J	0.0094	--	<0.001	<0.002	--	0.012	--	0.014	0.014	<8	0.0017 J	--	0.23	--	0.037	--	<0.01	--	<0.002	--	--	
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1023	10/24/2023	<0.001	--	0.00087	0.00078	0.0020	--	<0.001	<0.001	--	0.0038	--	0.0025	0.0025	2.8	<0.0005	--	0.22	<0.0002	0.007	--	<0.0005	--	<0.0001	--	--	
TWX-4	Supplementary	BAP	CH-CCR-P2268-0621	6/1/2021	<0.00013 U	--	0.0014	--	0.0083	--	<0.001	0.00038	--	0.00091 J	--	0.013	0.014	3.0	0.0047	--	0.20	<0.0002	0.036	--	0.0031	--	<0.000081 U	--	<0.8	
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1021	10/31/2021	0.00038 J	--	0.0023	0.0022	0.0095	--	<0.001	0.00031	--	0.51	--	0.017	0.0095	3.1	0.0020	--	0.21	<0.0002	0.11	--	0.0044	--	0.00044	--	--	
TWX-4	Supplementary	BAP	CH-CCR-TWX4-0522	05/03/2022	0.00024 J	--	0.0012	0.00062	0.006	--	<0.001	0.00042	--	0.077	--	0.016	0.013	3.1	0.0010	--	0.21	--	0.049	--	0.0022	--	0.00025	--	--	
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1022	10/27/2022	<0.001	--	0.00064	0.00075	0.0069	--	<0.001	<0.001	--	0.017	--	0.012	0.011	3.0	0.0011	--	0.21	<0.0002	0.051	--	0.0015	--	<0.0001	--	--	
TWX-5	Supplementary	BAP	CH-CCR-P2268-0621	6/1/2021	<0.00023 U	--	0.0016	--	0.0088	--	<0.001	0.00032	--	0.0068 J	--	0.013	0.013	2.7	0.0069	--	0.22	<0.0002	0.040	--	0.0057	--	<0.000088 U	--	<0.8	
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1021	10/31/2021	<0.002 U	--	0.0037	0.0023	0.012	--	<0.001	0.00044	--	0.026	--	0.016	0.014	3.1	0.0040	--	0.20	<0.0002	0.042	--	0.0023	--	0.0001 J	--	--	
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0522	05/03/2022	0.00011 J	--	0.0024	0.0010	0.010	--	<0.001	0.00057	--	0.013	--	0.016	0.016	3.1	0.0019	--	0.2	--	0.037	--	0.0022	--	0.00011	--	--	
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1022	10/27/2022	<0.001	--	0.0019	0.0012	0.0099	--	<0.001	0.00083	--	0.036	--	0.017	0.017	2.9	0.0020	--	0.19	<0.0002	0.039	--	0.0032	--	0.00044	--	--	
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0423	04/26/2023	<0.01	--	0.0013 J	0.00096 J	0.011	--	<0.001	<0.002	--	0.0057 J	--	0.014	0.013	<8	0.0042	--	0.22	--	0.034	--	<0.01	--	<0.002	--	--	
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1023	10/24/2023	<0.005	--	0.0053	0.0038	0.010	--	<0.001	<0.005	--	0.022	--	0.014	0.013	2.8	0.0027	--	0.21	<0.0002	0.039	--	<0.0025	--	<0.0005	--	--	
TWX-6	Supplementary	BAP	CH-CCR-P2268-0621	6/1/2021	<0.00012 U	--	0.0034	--	0.0087	--	<0.001	0.00064	--	0.012	--	0.019	0.018	2.7	0.014	--	0.20	<0.0002	0.062	--	0.0061	--	<0.00041 U	--	<0.8	
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1021	10/31/2021	0.00048 J	--	0.0042	0.0033	0.0087	--	<0.001	0.00065	--	0.037	--	0.018	0.016	3.0	0.0009 J	--	0.20	<0.0002	0.063	--	0.0015 J	--	0.00004	--	--	
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0522	05/03/2022	0.000083 J	--	0.0034	0.0022	0.0089	--	<0.001 U	0.00067	--	0.012	--	0.016	0.017	2.9	0.0013	--	0.21	--	0.052	--	0.00093	--	0.000041 J	--	--	
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1022	10/27/2022	<0.001	--	0.0029	0.0023	0.011	--	<0.001	0.00074	--	0.015	--	0.017	0.017	2.5	0.0021	--	0.20	<0.0002	0.052	--	0.0012	--	<0.0001	--	--	
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0423	04/26/2023	<0.01	--	0.0020	0.0021	0.0090	--	<0.001	0.0017 J	--	<0.01	--	0.018	0.017	<8	0.0020	--	0.23	--	0.050	--	<0.01	--	<0.002	--	--	
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1023	11/21/2023	<0.001	--	0.0083	0.0059	0.0160	--	<0.001	0.00074	--	0.025	--	0.027	0.026	2.6	0.0030	--	0.20	--	0.066	--	<0.01	--	<0.0001	--	--	
TWX-7	Supplementary	BAP	CH-CCR-P2268-0621	6/1/2021	0.00035 J	--	0.0034	--	0.011	--	<0.001	0.00091	--	0.68	--	0.0093 J	0.015 J	1.9	0.0065	--	0.45	<0.0002	0.23	--	0.0012	--	0.00021	--	<0.8	
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1021	10/31/2021	<0.002 U	--	0.0072	0.0032	0.020	--	<0.001	0.00024	--	0.99	--	0.013	0.0039	2.5	0.0053	--	0.26	<0.0002	0.20	--	0.0018 J	--	0.0001 J	--	--	
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0522	05/03/2022	0.00016 J	--	0.0018	0.00078	0.0097	--	<0.001	0.00073	--	0.015	--	0.018	0.018	2.9	0.0012	--	0.21	--	0.043	--	0.0015	--	0.000045 J	--	--	
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1022	10/27/2022	<0.001	--	0.0019	0.00081	0.0094	--	<0.001	0.00050	--	0.16	--	0.016	0.016	2.4	0.0020	--	0.21	<0.0002	0.045	--	0.0013	--	<0.0001	--	--	
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0423	04/26/2023	<0.01	--	0.0020	0.0012 J	0.0076	--	<0.001	0.00055 J	--	0.045	--	0.017	0.016	<8	0.0029	--	0.22	--	0.041	--	<0.01	--	<0.002	--	--	
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1023	10/24/2023	<0.005	--	0.0043	0.0040	0.0042	--	<0.001	<0.005	--	0.022	--	0.013	0.013	2.7	<0.0025	--	0.21	<0.0002	0.042	--	<0.0025	--	<0.0005	--	--	
TWX-8	Supplementary	BAP	CH-CCR-TWX8-1021	10/31/2021	<0.002 U	--	0.0017 J	<0.0018 U	0.0069	--	<0.001	0.00065	--	0.0096	--	0.019	0.017	2.2	<0.001	--	0.22	<0.0002	0.045	--	0.0023	--	<0.0004	--	--	
TWX-8	Supplementary	BAP	CH-CCR-TWX8-0522	05/03/2022	0.000074 J	--	0.0015	0.00097	0.0089	--	<0.001	0.00072	--	0.0064	--	0.015	0.016	2.2	0.0081	--	0.22	--	0.056	--	0.0013	--	0.000036 J	--	--	
TWX-8	Supplementary	BAP	CH-CCR-TWX8-1022	10/27/2022	<0.001	--	0.0010	0.00096	0.0096	--	<0.001	0.00065	--	0.025	--	0.016	0.016	2.3	0.0070	--	0.23	<0.0002	0.050	--	0.0012	--	<0.0001	--	--	
TWX-9	Supplementary	BAP	CH-CCR-P2268-0621	6/1/2021	0.00074 J	--	0.0038	--	0.0017	--	<0.001	0.00012	--	1.8	--	0.0031 J	0.015 J	0.76 J	0.0048	--	0.50	<0.0002	0.14	--	0.0022	--	<0.00035 U	--	<0.8	
TWX-9	Supplementary	BAP	CH-CCR-TWX9-1021	10/31/2021	0.00092 J	--	0.0019	0.0020	0.0046	--	<0.001	0.00075	--	1.5	--	0.012	0.0073	2.6	0.0020	--	0.23	<0.0002	0.084	--	0.0033	--	0.000096 J	--	--	
TWX-9	Supplementary	BAP	CH-CCR-TWX9-0522	05/03/2022	0.0012	--	0.0042	0.00094	0.006	--	<0.001	0.0011	--</																	

**Table D-5
Groundwater Sampling Results for the BAP Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents																									
Constituent:					Antimony	Antimony	Arsenic	Arsenic	Barium	Barium	Beryllium	Cadmium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lead	Lithium	Mercury	Molybdenum	Molybdenum	Selenium	Selenium	Thallium	Thallium	Total Radium	
Filtered:					N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	N	N	N	Y	N	Y	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
BAP BTV					0.004	0.004	0.004	0.004	0.05	0.05	0.001	0.0004	0.0004	0.004	0.004	0.002	0.002	0.8	0.002	0.002	0.31	0.0002	0.0061	0.0061	0.002	0.002	0.0014	0.0014	1.6	
BAP GWPS					0.006	0.006	0.01	0.01	2	2	0.004	0.005	0.005	0.1	0.1	0.006	0.006	4	0.015	0.015	0.31	0.002	0.1	0.1	0.05	0.05	0.002	0.002	5	
Well ID	Designation	CCR Unit	Sample ID	Sample Date																										
TWX-10	Supplementary	BAP	CH-CCR-F226H-0621	6/1/2021	<0.00014 U	--	0.0011	--	0.011	--	<0.001	0.00014	--	0.057	--	0.0074	0.0066	0.48 J	0.011	--	0.51	<0.0002	0.022	--	0.0016	--	<0.00017 U	--	<0.8	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-1021	10/31/2021	0.00044 J	--	0.0019	0.0034	0.023	--	<0.001	0.00026	--	0.041	--	0.0039	0.0018	0.62 J	0.0027	--	0.62	<0.0002	0.10	--	0.0031	--	<0.0004	--	--	
TWX10	Supplementary	BAP	CH-CCR-TWX10-0522	05/03/2022	0.00016 J	--	0.0011	0.00063	0.012	--	<0.001	0.00039	--	0.019	--	0.008	0.0084	0.74 J	0.00099	--	0.50	--	0.014	--	0.0019	--	0.000035 J	--	--	
TWX10	Supplementary	BAP	CH-CCR-TWX10-1022	10/27/2022	<0.001	--	0.00085	0.00069	0.013	--	<0.001	0.00022	--	0.028	--	0.010	0.010	<8	0.0018	--	0.51	<0.0002	0.017	--	0.0018	--	<0.0001	--	--	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-0423	04/26/2023	<0.01	--	<0.002	<0.002	0.011	--	<0.001	<0.002	--	0.014	--	0.013	0.012	<8	<0.002	--	0.50	--	0.016	--	<0.01	--	<0.002	--	--	
TWX-10	Supplementary	BAP	CH-CCR-TWX10-1023	10/24/2023	<0.005	--	0.0034	0.0035	0.0097	--	<0.001	<0.0005	--	0.015	--	0.015	0.015	0.45	<0.0025	--	0.49	<0.0002	0.013	--	<0.0025	--	<0.0005	--	--	

Notes:
 BTV exceedances are shown in grey shaded cells. GWPS exceedance are shown in red text.
 Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.
 * In previous documents TD3-3 is also known as BSX-01, TD3-4 is also known as BSX-02, and TD3-5 is also known as BSX-03.

Abbreviations and Data Qualifiers:
 < = less than
 BAP = Bottom Ash Pond
 BTV = Background Threshold Value
 CCR - Coal Combustion Residual
 degrees C = degrees Celsius
 GWPS = Groundwater Protection Standard
 ID = Identification
 J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
 mg/L = milligrams per liter
 pCi/L = Picocuries per liter
 su = standard units
 U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
 UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-6
Groundwater Sampling Results for the BAP Monitoring Wells - Additional Analyses**

Well ID	Designation	CCR Unit	Sample ID	Sample Date	Additional Analyses																						
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Total				
					Filtered:	Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L			
BAP BTW					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--						
BAP GWFS					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
M-64A	Background	FAP/BAP	CH-CCR-M100-217	2/20/2017	520	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	17	0.8	<0.6	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-217	2/20/2017	520	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	17	<0.4	<0.6	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-FD02-41217	4/12/2017	520	<6.0	<6.0	--	--	--	--	--	210	--	--	--	--	--	--	14	<0.4	0.8	--	3,700	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41217	4/12/2017	520	<6.0	<6.0	--	--	--	--	--	210	--	--	--	--	--	--	14	<0.5	0.6	--	3,800	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-42517	4/25/2017	530	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	14	0.8	0.8	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-51817	5/18/2017	530	<6.0	<6.0	--	--	--	--	--	230	--	--	--	--	--	--	14	<0.5	1.3	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-FD01-52417	5/24/2017	530	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	13	<0.3	1.1	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-52417	5/24/2017	530	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	14	0.4	<0.6	--	3,700	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-63017	6/30/2017	450	<6.0	<6.0	--	--	--	--	--	210	--	--	--	--	--	--	14	<0.4	<0.7	--	3,700	--	--	
M-64A	Background	FAP/BAP	CH-CCR-FD01-72717	7/27/2017	470	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	14	<0.4	<0.7	--	3,600	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-72717	7/27/2017	470	<6.0	<6.0	--	--	--	--	--	220	--	--	--	--	--	--	15	<0.4	<0.7	--	3,700	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-90717	9/7/2017	460	<6.0	<6.0	--	--	--	--	--	210	--	--	--	--	--	--	14	<0.5	<0.7	--	3,700	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-120817	12/8/2017	540	<6.0	<6.0	--	--	--	--	--	210	--	--	--	--	--	--	14	--	--	--	3,000	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-21518	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.261	0.704	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-51918	5/19/2018	520	<6.0	<6.0	520	<6.0	--	--	--	200	--	--	--	--	--	--	13	<0.5	<0.7	--	4,000	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M-64A-102218	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	--	
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD-01-102218	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-21319	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.6	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41119	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.5	<0.7	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD01-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-102419	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64-0520	5/6/2020	490	<6	<6	490	<6	0.73	5.0	5.5	5.0	230	--	2.2	1.9	--	<0.5	--	--	20	<0.4	<0.8	--	3,400	5.1
M-64A	Background	FAP/BAP	*DUP* CH-CCR-FD05-0520	5/6/2020	470	<6	<6	470	<6	0.75	5.5	5.5	4.8	220	--	2.3	1.9	--	<0.5	--	19	<0.4	<0.8	--	3,800	5.5	
M-64A	Background	FAP/BAP	CH-CCR-M64-1020	10/24/2020	--	--	--	--	--	0.77	4.8	5.5	5.5	--	2	2.2	--	--	<0.25	--	--	--	<0.4	<0.8	--	4.5	
M-64A	Background	FAP/BAP	CH-CCR-M64-0421	4/15/2021	--	--	--	--	--	0.88	4.6 J	6.2	5.9	250	--	2.4	2.3	--	<0.25	--	--	18	<0.4	<0.7	--	3,800	--
M-64A	Background	FAP/BAP	CH-CCR-M64-1021	10/22/2021	--	--	--	--	--	0.77	4.5 J	6.1	6.6	--	2.3	2.5	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	
M-64A	Background	FAP/BAP	CH-CCR-M64A-0422	4/26/2022	470	<6	<6	470	<6	0.93	4.9	6.9	7.1	270	--	2.5	2.6	--	<0.25	--	--	13	<0.4	1.0	--	3,300	--
M-64A	Background	FAP/BAP	CH-CCR-M64A-1022	10/22/2022	460	<6	<6	460	<6	0.93	5.3	8.7	6.5	270	--	2.4	2.4	--	<0.25	--	--	12	<0.4	<0.6	--	3,300	--
M-64A	Background	FAP/BAP	CH-CCR-M64A-0423	04/17/2023	420	<6	<6	420	<6	0.86	6.0	7.2	6.0	290	--	2.3	2.1	--	<0.1	--	--	15	<0.5	<0.6	--	3,800	--
M-64A	Background	FAP/BAP	CH-CCR-M64A-1023	10/11/2023	430	<6	<6	430	<6	0.90	5.2 J	6.3	6.5	260	--	2.2	2.2	--	<0.1	--	--	14	<0.7	<0.72	--	2,900	--
M-52A	Downgradient Boundary	BAP	7879	12/1/2015	190	<6.0	<6.0	--	--	--	--	--	280	--	--	--	--	--	--	--	6.4	0.4	<0.7	15	2,200	--	--
M-52A	Downgradient Boundary	BAP	CH-M-52A-0316	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2	<0.6	--	--	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-516	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.3	<0.4	--	--	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-816	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	<0.6	--	--	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-916	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	<0.7	--	--	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M101-217	2/21/2017	220	<6.0	<6.0	--	--	--	--	--	260	--	--	--	--	--	--	--	6.9	<0.5	<0.6	--	2,400	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-217	2/21/2017	220	<6.0	<6.0	--	--	--	--	--	260	--	--	--	--	--	--	--	7.1	<0.4	<0.6	--	2,600	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-41117	4/11/2017	240	<6.0	<6.0	--	--	--	--	--	250	--	--	--	--	--	--	--	6.5	<0.6	<0.6	--	2,400	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-42517	4/25/2017	240	<6.0	<6.0	--	--	--	--	--	260	--	--	--	--	--	--	--	6.6	<0.9	<0.6	--	2,400	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-51817	5/18/2017	250	<6.0	<6.0	--	--	--	--	--	270	--	--	--	--	--	--	--	6.9	<0.4	0.6	--	2,400	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-52417	5/24/2017	250	<6.0	<6.0	--	--	--	--	--	280	--	--	--	--	--	--	--	7.2	<0.4	<0.6	--	2,500	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-63017	6/30/2017	190	<6.0	<6.0	--	--	--	--	--	230	--	--	--	--	--	--	--	5.6	<0.5	<0.7	--	2,200	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-72817	7/28/2017	150	<6.0	<6.0	--	--	--	--	--	230	--	--	--	--	--	--	--	4.7	<0.4	<0.7	--	2,000	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-90717	9/7/2017	140	<6.0	<6.0	--	--	--	--	--	240	--	--	--	--	--	--	--	4.6	<0.6	<0.6	--	2,000	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-120717	12/7/2017	150	<6.0	<6.0	--	--	--	--	--	240	--	--	--	--	--	--	--	5.2	--	--	--	2,000	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-21518	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	0.7	--	--	--	
M-52A	Downgradient Boundary	BAP	7879	5/20/2018	230	<6.0	<6.0	--	--	--	--	--	280	--	--	--	--	--	--	--	6.6	--	--	--	2,500	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M52A-6718	6/7/2018	220	<6.0	<6.0	--	--	--	--	--	260	--	--	--	--	--	--	--	5.6	<0.4	0.7	--	2,200	--	
M-52A	Downgradient Boundary	BAP	CH-CCR-M-52A-102418	10/24/2018																							

**Table D-6
Groundwater Sampling Results for the BAP Monitoring Wells - Additional Analyses**

Well ID	Designation	CCR Unit	Sample ID	Sample Date	Additional Analyses																												
					Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Total	Potassium	Potassium	Radium 226	Radium 226	SiO2, Silica	Sodium	Sodium	Total Organic Carbon	
					Filtered:	N	N	N	N	N	N	Y	N	Y	N	Y	N	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	N	Y	N
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
					BAP GWFS																												
W-314	Downgradient Boundary	BAP	CH-CCR-W314-41117	4/11/2017	100	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.9	--	<0.4	--	--	1.500	--	--				
W-314	Downgradient Boundary	BAP	CH-CCR-W314-42517	4/25/2017	100	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.8	--	0.5	<0.6	--	1.600	--	--				
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52217	5/22/2017	100	<6.0	<6.0	--	--	--	--	170	--	--	--	--	--	--	--	--	--	1.9	--	<0.4	--	1.600	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-52417	5/24/2017	100	<6.0	<6.0	--	--	--	--	170	--	--	--	--	--	--	--	--	--	1.9	--	<0.4	--	1.600	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-63017	6/30/2017	100	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.6	--	<0.4	--	1.500	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-72817	7/28/2017	100	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.7	--	<0.4	--	1.500	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-90717	9/7/2017	110	<6.0	<6.0	--	--	--	--	170	--	--	--	--	--	--	--	--	--	1.7	--	<0.5	<0.7	1.500	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-120717	12/7/2017	100	<6.0	<6.0	--	--	--	--	170	--	--	--	--	--	--	--	--	--	2.0	--	--	--	1.500	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21518	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	0.2	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W-314-52018	5/20/2018	100	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.9	--	<0.5	<0.7	1.500	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-102418	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-W-314-102418	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-12818	12/8/2018	94	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	1.8	--	<0.5	0.7	8.9	1.500	--	--				
W-314	Downgradient Boundary	BAP	CH-CCR-W314-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-8119	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-102419	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0420	4/19/2020	98	<6	<6	--	--	<0.5	1.0	<0.03	<0.1	170	--	0.063	0.057	--	--	<0.5	--	--	<0.73	--	--	1.500	--	0.97					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1020	10/23/2020	--	--	--	--	--	<0.5	0.98	0.058 J	0.04 J	--	--	0.062	0.082	--	--	4.5	--	--	--	<0.4	<0.8	--	--	0.95					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0421	4/16/2021	--	--	--	--	--	<0.05	1.2	0.12	0.059 J	--	--	0.096	0.070	--	--	<0.25	--	--	--	<0.4	<0.7	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1021	10/29/2021	--	--	--	--	--	<0.05	1.4	0.073 J	0.058 J	--	--	0.093	0.094	--	--	<0.25	--	--	--	<0.3	<0.6	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0522	5/11/2022	110	--	<6	110	<6	<0.05	1.4	0.11	<0.1 U	--	--	0.097	0.063	--	--	3.9	--	--	--	<0.3	<0.6	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1022	10/25/2022	--	--	--	--	--	<0.05	1.9	<0.1	<0.1	--	--	0.17	0.16	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-0423	04/20/2023	--	--	--	--	--	<0.05	1.6	0.10	<0.1	--	--	0.24	0.21	--	--	<0.1	--	--	--	<0.51	<0.6	--	--	--					
W-314	Downgradient Boundary	BAP	CH-CCR-W314-1023	10/18/2023	--	--	--	--	--	<0.05	1.3	<0.1	<0.1	--	--	0.24	0.26	--	--	<0.1	--	--	--	<0.38	<0.75	--	--	--					
TDX-3'	Extraction Well	BAP	CH-BAPD-BSX01-0621	6/14/2021	110	<6	<6	110	<6	--	0.11	--	--	250	--	--	--	--	--	--	--	16	--	--	--	--	--	--					
TDX-3'	Extraction Well	BAP	CH-CRT-BSX01-0621_062221	6/22/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
TDX-3'	Extraction Well	BAP	CH-CCR-BSX01-0821	8/2/2021	--	--	--	--	--	0.28	1.2	0.31	0.29	--	--	4.4	4.7	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--					
TDX-4'	Extraction Well	BAP	CH-CCR-BSX02-0821	8/2/2021	--	--	--	--	--	0.067	1.3	0.23	0.26	--	--	2.7	2.8	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--					
TDX-5'	Extraction Well	BAP	CH-CRT-BSX03-0621_062621	6/26/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
TDX-5'	Extraction Well	BAP	CH-CRT-BSX03-0621_062321	6/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
TDX-5'	Extraction Well	BAP	CH-CCR-BSX03-0821	8/2/2021	--	--	--	--	--	0.27	1.3	0.11	0.083 J	--	--	4.0	4.1	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--					
BSX-04	Supplementary	BAP	CH-CRT-BSX04-0621_062721_AM	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
BSX-04	Supplementary	BAP	CH-CRT-BSX04-0621_062721_PM	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--					
BSX-04	Supplementary	BAP	CH-CCR-BSX04-0821	8/3/2021	--	--	--	--	--	<0.05	2.1	0.30	0.28	--	--	0.95	1.0	--	--	<0.25	--	--	--	0.4	<0.6	--	--	--					
BSX-05	Supplementary	BAP	CH-CCR-BSX05-0821	8/3/2021	--	--	--	--	--	0.23	1.4	0.54	0.56	--	--	6.6	6.9	--	--	<0.25	--	--	--	<0.4	<0.6	--	--	--					
M-55A	Supplementary	BAP	7877	12/1/2015	180	<6.0	<6.0	--	--	--	--	--	140	--	--	--	--	--	--	--	--	3.3	--	<0.5	<0.9	22	2.200	--	--				
M-55A	Supplementary	BAP	CH-M-55A-0316	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	<0.6	--	--	--	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-516	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	<0.3	<0.5	--	--	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-816	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	<0.4	<0.6	--	--	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-916	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	<0.4	0.8	--	--	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-217	2/21/2017	200	<6.0	<6.0	--	--	--	--	150	--	--	--	--	--	--	--	--	--	3.6	--	<0.4	<0.6	--	2.900	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-41217	4/12/2017	200	<6.0	<6.0	--	--	--	--	140	--	--	--	--	--	--	--	--	--	3.1	--	<0.5	1.4	--	2.800	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-42517	4/25/2017	210	<6.0	<6.0	--	--	--	--	150	--	--	--	--	--	--	--	--	--	3.2	--	<0.4	1.0	--	2.900	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-51817	5/18/2017	210	<6.0	<6.0	--	--	--	--	150	--	--	--	--	--	--	--	--	--	3.2	--	<0.4	1.1	--	2.800	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-52417	5/24/2017	210	<6.0	<6.0	--	--	--	--	150	--	--	--	--	--	--	--	--	--	3.1	--	<0.4	1.5	--	2.900	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-70117	7/1/2017	210	<6.0	<6.0	--	--	--	--	150	--	--	--	--	--	--	--	--	--	2.9	--	<0.5	0.9	--	2.800	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-72817	7/28/2017	200	<6.0	<6.0	--	--	--	--	160	--	--	--	--	--	--	--	--	--	2.9	--	<0.4	<0.7	--	3.000	--					
M-55A	Supplementary	BAP	CH-CCR-M55A-90717	9/7/2017	210	&																											

Table D-6
Groundwater Sampling Results for the BAP Monitoring Wells - Additional Analyses

Well ID	Designation	CCR Unit	Sample ID	Sample Date	Additional Analyses																												
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Total	Potassium	Potassium	Radium 226	Radium 226	SiO2, Silica	Sodium	Sodium	Total Organic Carbon		
					N	N	N	N	N	N	Y	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BAP BTW					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
BAP GWPS					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
MW-70M	Supplementary	BAP	CH-CR-M70-1021	10/29/2021	--	--	--	--	--	0.041 J	1.4	<0.1 U	0.065 J	--	--	1.7	1.7	--	--	<0.25	--	--	--	--	--	0.6	<0.6	--	--	--			
MW-70M	Supplementary	BAP	CH-CR-MW70M-0522	05/24/2022	95	<6	<6	95	<6	<0.05	1.4	0.050 J	0.072 J	150	160	1.7	1.8	--	--	0.49	--	--	--	7.5	7.7	0.6	<0.4	0.8	--	1,600	1,500	--	
MW-70M	Supplementary	BAP	CH-CR-MW70M-0423	04/19/2023	92	<6	<6	92	<6	<0.05 J	1.9	0.11	<0.1	170	--	1.9	2	--	--	<0.25	--	--	--	7.1	--	<0.4	<0.6	--	1,700	--	--		
MW-70M	Supplementary	BAP	CH-CR-MW70M-1023	10/18/2023	88	<6	<6	88	<6	<0.05	1.4	0.37	0.11	160	--	1.9	1.7	--	--	<0.1	--	--	--	9.0	--	<0.37	0.6	--	1,700	--	--		
W-301	Supplementary	BAP	CH-CR-W301-12718	12/7/2018	180	<6.0	<6.0	--	--	<0.05	2.2	<0.1 UJ	<0.1 UJ	150	--	1.7	1.7	--	--	<0.1	--	--	--	7.9	--	<0.4	<0.75	--	1,600	--	--		
W-301	Supplementary	BAP	CH-CR-W301-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.6	--	<0.6	<0.7	14	2,600	--	--		
W-301	Supplementary	BAP	CH-CR-W301-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
W-301	Supplementary	BAP	CH-CR-W301-8919	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-102319	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-0420	4/18/2020	150	<6	<6	--	--	<0.5	3.1	<0.03	<0.1	160	--	1.8	1.7	--	--	17	--	--	--	9.6	--	--	--	--	4,100	--	2.9	--	
W-301	Supplementary	BAP	CH-CR-W301-1020	10/22/2020	--	--	--	--	--	<0.5	2.7	0.052 J	0.04 J	--	--	1.6	1.6	--	--	20	--	--	--	--	--	<0.4	<0.8	--	--	--	2.6	--	
W-301	Supplementary	BAP	CH-CR-W301-0421	4/17/2021	--	--	--	--	--	<0.05	2.9	0.10	0.082 J	--	--	1.6	1.6	--	--	20	--	--	--	--	--	<0.4	<0.8	--	--	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-1021	10/28/2021	--	--	--	--	--	<0.05	3.0	<0.1 U	0.039 J	--	--	1.5	1.5	--	--	16	--	--	--	--	--	<0.5	<0.6	--	--	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-0522	05/03/2022	160	<6	<6	160	<6	<0.05	2.9	0.086 J	0.095 J	180	--	1.6	1.5	--	--	15	--	--	--	6.2	--	<0.4	<0.6	--	4,300	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-1022	10/22/2022	160	<6	<6	160	<6	<0.05	3.5	0.16	0.13	210	--	1.7	1.5	--	--	12	--	--	--	6	--	<0.4	<0.7	--	4,000	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-0423	04/18/2023	160	<6	<6	160	<6	<0.05	3.4	0.19	0.13	200	--	1.5	1.4	--	--	13	--	--	--	16	--	<0.55	<0.6	--	<0.5	--	--	--	
W-301	Supplementary	BAP	CH-CR-W301-1023	10/19/2023	160	<6	<6	160	<6	<0.05	2.9	<0.1 UJ	<0.1 UJ	180	--	1.5	1.4	--	--	13	--	--	--	6.2	--	<0.38	<0.75	--	4,400	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-12718	12/7/2018	140	<6.0	<6.0	--	--	--	--	--	--	120	--	--	--	--	--	--	--	--	--	5.5	--	<0.6	<0.7	12	1,800	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	0.7	--	--	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-41719	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	BAP	CH-CR-W302-8919	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	BAP	CH-CR-W302-102319	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	BAP	CH-CR-W302-0420	4/17/2020	130	<6.0	<6.0	--	--	<0.5	1.2 J	0.40	0.14	120	--	0.022 J	0.027	--	--	<0.5	--	--	--	6.5	--	--	--	--	1,800	--	0.64 J	--	
W-302	Supplementary	BAP	CH-CR-W302-1020	10/23/2020	--	--	--	--	--	<0.5	0.75	0.19	0.12	--	--	0.057	0.048	--	--	<0.25	--	--	--	--	--	<0.4	<0.8	--	--	--	0.57	--	
W-302	Supplementary	BAP	CH-CR-W302-0421	4/17/2021	--	--	--	--	--	<0.05	0.83	0.18	0.059 J	--	--	0.053	0.048	--	--	<0.25	--	--	--	--	--	<0.4	<0.8	--	--	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-1021	10/30/2021	--	--	--	--	--	<0.05	0.77	<0.16 U	0.063 J	--	--	0.1	0.098	--	--	<0.25	--	--	--	--	--	<0.6	<0.6	--	--	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-0522	5/11/2022	140	<6	<6	140	<6	<0.05	0.88	0.13	0.21	160	--	0.18	0.17	--	--	3.7	--	--	--	5	--	<0.4	<0.6	--	2,000	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-1022	10/25/2022	140	<6	<6	140	<6	<0.05	1.6	0.12	<0.1	170	--	0.051	0.042	--	--	<0.25	--	--	--	4.2	--	<0.4	<0.6	--	2,100	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-0423	04/24/2023	140	<6	<6	140	<6	<0.05	0.87 J	<0.5	<0.1	160	--	<0.05	0.016	--	--	<0.1	--	--	--	5.3	--	<0.43	1.0	--	2,000	--	--	--	
W-302	Supplementary	BAP	CH-CR-W302-1023	10/12/2023	140	<6	<6	140	<6	<0.05	1.2	0.23	<0.1	160	--	0.053	<0.01	--	--	<0.1	--	--	--	6.0	--	<0.6	<0.72	--	2,000	--	--	--	
W-303	Supplementary	BAP	--	4/18/2020	150	<6.0	<6.0	--	--	1.4	--	<0.1	190	--	<0.50	0.023	--	--	<0.5	--	--	--	6.8	--	--	--	--	2,100	--	1.4	--		
W-303	Supplementary	BAP	CH-CR-W303-1020	10/22/2020	--	--	--	--	--	<0.5	1.2	0.14	0.052 J	--	--	0.1	0.11	--	--	<0.25	--	--	--	--	--	<0.4	0.8	--	--	1.1	--		
W-303	Supplementary	BAP	CH-CR-W303-0421	4/17/2021	--	--	--	--	--	<0.05	1.4	0.17	0.11	--	--	0.99	0.88	--	--	<0.25	--	--	--	--	--	<0.4	0.8	--	--	--	--		
W-303	Supplementary	BAP	CH-CR-W303-1021	10/28/2021	--	--	--	--	--	<0.05	1.6	<0.1 U	0.062 J	--	--	3.0	3.1	--	--	<0.25	--	--	--	--	--	<0.4	<0.6	--	--	--	--		
W-303	Supplementary	BAP	CH-CR-W303-1022	10/22/2022	190	<6	<6	190	<6	0.088	2.6	0.12	<0.1	270	--	3	2.9	--	--	<0.25	--	--	--	3.9	--	<0.6	0.8	--	2,400	--	--	--	
W-303	Supplementary	BAP	CH-CR-W303-0522	05/04/2022	170	<6	<6	170	<6	<0.05 J	1.5	0.15	<0.1 U	200	--	1.2	1.1	--	--	0.37	--	--	--	3.9	--	<0.4	<0.6	--	2,500	--	--	--	
W-303	Supplementary	BAP	CH-CR-W303-0423	04/18/2023	160	<6	<6	160	<6	<0.05 UJ	1.7	0.17	<0.1	240	--	0.23	0.024	--	--	0.11	1.1	--	--	--	--	<0.54	1.1	--	2,600	--	--	--	
W-303	Supplementary	BAP	CH-CR-W303-1023	10/19/2023	190	<6	<6	190	<6	<0.05	1.6	<0.1 UJ	<0.1 UJ	220	--	0.66	0.66	--	--	<0.1	--	--	--	4.4	--	<0.38	<0.75	--	2,600	--	--	--	
W-304	Supplementary	BAP	CH-CR-W304-12718	12/7/2018	140	<6.0	<6.0	--	--	--	--	--	--	100	--	--	--	--	--	--	--	--	--	5.8	--	<0.5	<0.7	9.6	2,100	--	--	--	
W-304	Supplementary	BAP	CH-CR-W304-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.6	--	--	--	--	--	
W-304	Supplementary	BAP	CH-CR-W304-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--</					

**Table D-6
Groundwater Sampling Results for the BAP Monitoring Wells - Additional Analyses**

Well ID	Designation	CCR Unit	Sample ID	Sample Date	Additional Analyses																												
					Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Potassium	Radium 226	Radium 226	SiO2, Silica	Sodium	Sodium	Total Organic Carbon	
					Filtered:	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	Y	Y	N	N	N	Y	Y	N
					Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BAP BTY					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
BAP GWFS					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
W-308	Supplementary	BAP	CH-CR-W308-12818	12/8/2018	160	<6.0	<6.0	--	--	--	--	--	120	--	--	--	--	--	--	--	--	7.7	--	--	<0.5	<0.7	12	1,900	--	--			
W-308	Supplementary	BAP	CH-CR-W308-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.6	<0.7	--	--	--	--			
W-308	Supplementary	BAP	CH-CR-W308-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-308	Supplementary	BAP	CH-APP-W308-62519	6/25/2019	--	--	--	--	--	--	--	--	120	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-308	Supplementary	BAP	CH-CR-W308-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	0.20	0.20	<0.10	0.20	<0.50	--	--	--	--	--	2,100	--	--				
W-308	Supplementary	BAP	CH-CR-W308-102419	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-308	Supplementary	BAP	CH-CR-W308-0420	4/17/2020	170	<6	<6	--	--	<0.5	1.2	0.031 J	<0.1	120	--	--	--	--	<0.5	--	--	6.4	--	--	--	--	2,100	--	1.0				
W-308	Supplementary	BAP	CH-CR-W308-1020	10/24/2020	--	--	--	--	--	<0.5	0.95	0.12	0.053 J	--	--	0.34	0.32	--	--	0.68	--	--	--	<0.4	<0.8	--	--	--	0.93				
W-308	Supplementary	BAP	CH-CR-W308-0421	4/18/2021	--	--	--	--	--	<0.05	1.1	0.071 J	0.049 J	--	--	0.19	0.19	--	--	<0.25	--	--	--	<0.5	<0.7	--	--	--	--				
W-308	Supplementary	BAP	CH-CR-W308-1021	10/28/2021	--	--	--	--	--	<0.05	1.2 J	0.20	0.18	--	--	0.38	0.38	--	--	<0.25	--	--	--	0.4	0.9	--	--	--	--				
W-308	Supplementary	BAP	CH-CR-W308-0522	5/12/2022	190	<6	<6	190	<6	<0.05	1.2	0.088 J	0.033 J	130	--	--	0.11	0.11	--	--	3.9	--	--	6.2	<0.3	<0.6	2,100	--	--				
W-308	Supplementary	BAP	CH-CR-W308-1022	10/26/2022	180	<6	<6	180	<6	<0.05	1.8	0.3	<0.1	140	--	--	0.16	0.15	--	--	<0.25	--	--	5.3	<0.4	<0.6	2,300	--	--				
W-308	Supplementary	BAP	CH-CR-W308-0423	04/20/2023	180	<6	<6	180	<6	<0.05	1.4	0.23	0.11	130	--	--	0.11	0.10	--	--	0.12	--	--	6.8	<0.53	<0.6	2,400	--	--				
W-308	Supplementary	BAP	CH-CR-W308-1023	10/12/2023	170	<6	<6	170	<6	<0.05	1.3	<0.1	<0.1	130	--	--	0.22	0.21	--	--	<0.1	--	--	8.0	<0.4	<0.72	2,100	--	--				
W-309	Supplementary	BAP	CH-CR-W309-12818	12/8/2018	55	<6.0	<6.0	--	--	--	--	--	34	--	--	--	--	--	--	--	--	12	--	--	<0.5	<0.7	22	1,700	--	--			
W-309	Supplementary	BAP	CH-CR-W309-21519	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-309	Supplementary	BAP	CH-CR-W309-41619	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-309	Supplementary	BAP	CH-APP-W309-62519	6/25/2019	--	--	--	--	--	--	--	--	88	--	--	--	--	--	--	2.7	2.7	<0.10	2.7	<0.50	--	--	1,900	--	--				
W-309	Supplementary	BAP	CH-CR-W309-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-309	Supplementary	BAP	CH-CR-W309-102419	10/24/2019	160	<6	<6	--	--	<0.5	<1	<0.1	<0.1	86	--	0.83	0.83	--	--	2.6	--	--	8.9	<0.4	<0.8	1,800	--	<1					
W-309	Supplementary	BAP	CH-CR-W309-0520	5/4/2020	--	--	--	--	--	<0.5	0.54	0.11	0.039 J	--	--	0.56	0.55	--	--	3.2	--	--	--	<0.4	<0.8	--	--	0.47 J	--				
W-309	Supplementary	BAP	CH-CR-W309-1020	10/24/2020	--	--	--	--	--	<0.05	0.68	0.11	0.076 J	--	--	0.60	0.57	--	--	2.8	--	--	--	<0.4	<0.7	--	--	--	--				
W-309	Supplementary	BAP	CH-CR-W309-0421	4/18/2021	--	--	--	--	--	<0.05	0.83	0.059 J	0.04 J	--	--	0.41	0.41	--	--	2.8	--	--	--	0.4	<0.6	--	--	--	--				
W-309	Supplementary	BAP	CH-CR-W309-1021	10/27/2021	--	--	--	--	--	<0.05	0.76	0.068 J	<0.1 U	91	--	0.44	0.43	--	--	5.9	--	--	4.9	<0.3	0.7	1,900	--	--					
W-309	Supplementary	BAP	CH-CR-W309-0522	5/12/2022	170	<6	<6	170	<6	<0.05	0.90	0.15	<0.1	100	--	0.60	0.43	--	--	2.7	--	--	5.9	<0.52	<0.6	2,100	--	--					
W-309	Supplementary	BAP	CH-CR-W309-0423	04/20/2023	170	<6	<6	170	<6	<0.05	0.90	0.15	<0.1	100	--	0.60	0.43	--	--	2.7	--	--	5.9	<0.52	<0.6	2,100	--	--					
W-309	Supplementary	BAP	CH-CR-W309-1023	10/12/2023	170	<6	<6	170	<6	<0.05	0.86	<0.1	<0.1	90	--	0.46	0.45	--	--	2.9	--	--	6.7	<0.4	<0.72	1,800	--	--					
W-317	Supplementary	BAP	CH-CR-W317-33019	3/30/2019	190	<6.0	<6.0	--	--	--	--	--	110	--	--	--	--	--	--	--	--	7.1	--	--	--	--	650	--	--				
W-317	Supplementary	BAP	*DUP* CH-CR-FD03-41719	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-41719	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	*DUP* CH-CR-FD01-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-8819	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-102419	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-0420	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-1020	10/21/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-F0421	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-1021	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-0422	4/26/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-1022	10/19/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	*DUP* CH-CR-FD04-1022	10/19/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-1022-SD	10/19/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-0423	04/14/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.52	1.2	--	--	--	--			
W-317	Supplementary	BAP	*DUP* CH-CR-FD04-0423	04/14/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.51	<0.6	--	--	--	--			
W-317	Supplementary	BAP	CH-CR-W317-1023	10/11/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.1	<0.72	--	--	--	--			
W-317	Supplementary	BAP	*DUP* CH-CR-FD04-1023	10/11/2023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	<0.72	--	--	--	--			
BAP	Supplementary	BAP	CH-BAP-01052012	1/5/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<2.0	<2.0	<5.0	--	--	--	--	--	--	--	--	--			
BAP	Supplementary	BAP	CH-BAP-11072012	11/7/2012	54	<6.0	<6.0	--	--	--	--	--	340	--	--	--	--	--	<0.20	<0.20	<1.4	0.60	30	--	--	--	2,000	--	--				
BAP	Supplementary	BAP	CH-BAP-1172012	11/7/2012	140	<6.0	<6.0	--	--	--	--	--	310	--	--	--	--	--	--	--	--	26	--	--	--	--	2,200	--	--				
BAP	Supplementary	BAP	CH-BAP-031313	3/13/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.8	<0.8	--	--	--	--	--	--	--	--	--	--			
BAP	Supplementary	BAP	CH-BAP-031313_C26660-1	3/13/2013	65.3	<5.0	<5.0	--	--	--	--	--	289	--	--	--	--	--	--	--	<1.8	0.62	28.3	--	--	--	1,710	--	--				
BAP	Supplementary	BAP	CH-BAP-0913	9/18/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.8	<0.8	--	--	--	--	--	--	--	--	--	--			
BAP	Supplementary	BAP	CH-BAP-0913_C29829-10	9/18/2013	52	8.0	<5.0	--	--	--	--	--	287	--	--	--	--	--	--	--	<0.8	3.2	26.5	--	--	--	768	--	--				
BAP	Supplementary	BAP	CH-BAP-0514	5/22																													

**Table D-6
Groundwater Sampling Results for the BAP Monitoring Wells - Additional Analyses**

Well ID	Designation	CCR Unit	Sample ID	Sample Date	Additional Analyses																												
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Sodium	Total Organic Carbon		
					Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:	Filtered:
					Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:	Units:
BAP BTW					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
BAP GWPS					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-0422	4/21/2022	78	<6	<6	78	<6	0.056	1.0	<0.1 U	<0.1 U	240	--	1.2	1.1	--	--	0.29	--	--	--	--	--	--	15	--	--	1,500	--	1.0	
Petroglyph Sump	Supplementary	BAP	CH-CCR-S508-0422	4/21/2022	81.7	<20	<20	81.7	--	0.052	<5	0.379 J	<0.75	249	--	0.078 J	1.16 J	--	--	0.294	--	--	--	23.8	--	--	--	--	1,420	--	<5		
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-1022	10/27/2022	86	<6	<6	86	<6	0.07	2.3 J	<0.1	<0.1	270	--	2.2	2.2	--	--	0.38	--	--	--	16	--	--	--	--	1,700	--	0.91 J		
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-0423	04/26/2023	82	<6	<6	82	<6	0.079	0.95	0.17	<0.1	260	--	1.3	1.0	--	--	0.33	--	--	--	14	--	--	--	--	1,400	--	0.88		
Petroglyph Sump	Supplementary	BAP	CH-CCR-Petroglyph-1023	10/24/2023	85	<6	<6	85	<6	0.089	1.4	0.23	<0.1	250	--	1.1	1.1	--	--	0.31	--	--	--	26	--	--	--	--	1,600	--	1.2		
Tanner Wash Sump	Supplementary	BAP	CH-TANNERS-0520	5/8/2020	76	<6	<6	--	--	<0.5	--	0.73	--	260	--	1.7	1.1	--	--	--	--	--	--	20	--	--	--	--	1,600	--	1.0		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TanWash-0421	4/16/2021	90	<6	<6	--	--	0.16	--	2.0	1.8	300	--	2.3	2.2	--	--	<0.25	--	--	--	21	--	<0.4	<0.8	--	1,600	--	1.3		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TanWash-1021	10/30/2021	81	<6	<6	81	<6	0.15	1.3	1.9	0.36	280	--	2.8	2.6	--	--	<0.25	--	--	--	16	--	--	--	--	1,600	--	1.2		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-0422	4/21/2022	98	<6	<6	98	<6	0.13	1.2	0.72	0.26	270	--	1.5	1.5	--	--	<0.25	--	--	--	16	--	--	--	--	1,600	--	1.1		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-1022	10/27/2022	92	<6	<6	92	<6	0.19	1.9	2.8	0.15	290	--	5.6	4.2	--	--	<0.25	--	--	--	17	--	--	--	--	1,900	--	<2		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-0423	04/26/2023	86	<6	<6	86	<6	0.056	0.98	1.5	0.12	280	--	1.5	1.3	--	--	0.24	--	--	--	16	--	--	--	--	1,400	--	1.0		
Tanner Wash Sump	Supplementary	BAP	CH-CCR-TannerWash-1023	10/24/2023	80	<6	<6	80	<6	0.079	1.0	0.75	<0.1	280	--	1.8	1.5	--	--	0.14	--	--	--	18	--	--	--	--	1,500	--	0.92		
TWX-3	Supplementary	BAP	CH-CCR-P226A-0621	6/1/2021	72	<6	<6	--	--	0.11	--	0.097 J	0.066 J	250	--	4.5	4.2	--	--	0.16 J	--	--	--	17	--	<0.5	<0.8	--	1,700	--	0.95		
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1021	10/31/2021	73	<6	<6	73	<6	0.15	1.2	0.20	0.071 J	240	--	3.6	3.6	--	--	<0.25	--	--	--	13	--	--	--	--	1,500	--	<1.1 U		
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0522	05/03/2022	78	<6	<6	78	<6	0.2	1.5	0.096 J	<0.1 U	230	--	4.2	4.3	--	--	0.25	--	--	--	14	--	--	--	--	1,600	--	1.1 J		
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1022	10/27/2022	78	<6	<6	78	<6	0.12	2 J	0.23	<0.1	260	--	5.2	4.9	--	--	<0.25	--	--	--	17	--	--	--	--	1,800	--	1.2 J		
TWX-3	Supplementary	BAP	CH-CCR-TWX3-0423	04/26/2023	82	<6	<6	82	<6	0.29	0.97	0.84	<0.1	250	--	3.9	3.7	--	--	<0.1	--	--	--	13	--	--	--	--	1,600	--	0.97		
TWX-3	Supplementary	BAP	CH-CCR-TWX3-1023	10/24/2023	75	<6	<6	75	<6	0.29	0.95	0.33	<0.1	240	--	4.0	3.8	--	--	<0.1	--	--	--	17	--	--	--	--	1,400	--	1.8		
TWX-4	Supplementary	BAP	CH-CCR-P226B-0621	6/1/2021	74	<6	<6	--	--	0.41	--	0.056 J	0.06 J	250	--	3.7	3.7	--	--	<0.25	--	--	--	17	--	<0.5	<0.8	--	1,600	--	0.84		
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1021	10/31/2021	81	<6	<6	81	<6	0.44	1.5	1.0	0.89 J	230	--	6.7	7.1	--	--	<0.25	--	--	--	17	--	--	--	--	1,600	--	1.3		
TWX-4	Supplementary	BAP	CH-CCR-TWX4-0522	05/03/2022	84	<6	<6	84	<6	0.2	1.4	0.28	0.084 J	230	--	4.2	4.2	--	--	0.37	--	--	--	15	--	--	--	--	1,500	--	1.1		
TWX-4	Supplementary	BAP	CH-CCR-TWX4-1022	10/27/2022	96	<6	<6	96	<6	0.29	2.9 J	0.23	<0.1	250	--	4.5	4.4	--	--	<0.25	--	--	--	17	--	--	--	--	1,700	--	1.1 J		
TWX-5	Supplementary	BAP	CH-CCR-P226C-0621	6/1/2021	92	<6	<6	--	--	0.43	--	0.067 J	0.064 J	260	--	4.5	4.6	--	--	<0.25	--	--	--	16	--	<0.4	<0.8	--	1,700	--	0.88		
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1021	10/31/2021	71	<6	<6	71	<6	0.42	1.2	0.42	0.14	240	--	4.0	3.8	--	--	<0.25	--	--	--	15	--	--	--	--	1,600	--	<1 U		
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0522	05/03/2022	83	<6	<6	83	<6	0.32	1.2	0.27	<0.1 U	240	--	4.0	3.6	--	--	0.48	--	--	--	15	--	--	--	--	1,600	--	1.0		
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1022	10/27/2022	82	<6	<6	82	<6	0.36	2.6 J	0.35	<0.1	260	--	3.8	3.7	--	--	<0.25	--	--	--	16	--	--	--	--	1,700	--	1.5 J		
TWX-5	Supplementary	BAP	CH-CCR-TWX5-0423	04/26/2023	85	<6	<6	85	<6	0.32	1.0	0.16	<0.1	270	--	4.2	3.9	--	--	<0.1	--	--	--	15	--	--	--	--	1,500	--	1.0		
TWX-5	Supplementary	BAP	CH-CCR-TWX5-1023	10/24/2023	76	<6	<6	76	<6	0.33	0.81	0.55	<0.1	250	--	4.0	3.9	--	--	<0.1	--	--	--	17	--	--	--	--	1,500	--	0.92		
TWX-6	Supplementary	BAP	CH-CCR-P226D-0621	6/1/2021	67	<6	<6	--	--	0.43	--	0.14	0.055 J	230	--	3.1	3.1	--	--	<0.25	--	--	--	12	--	<0.4	<0.8	--	1,700	--	0.91		
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1021	10/31/2021	68	<6	<6	68	<6	0.17	<1.1 U	0.26	0.06 J	220	--	2.9	2.9	--	--	<0.25	--	--	--	10	--	--	--	--	1,600	--	<1.1 U		
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0522	05/03/2022	75	<6	<6	75	<6	0.12	1.3	0.19	0.11	220	--	3.2	3.0	--	--	0.54	--	--	--	11	--	--	--	--	1,600	--	1.1		
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1022	10/27/2022	73	<6	<6	73	<6	0.1 J	1.8 J	0.43	<0.1	240	--	3.2	3	--	--	<0.25	--	--	--	10	--	--	--	--	1,700	--	1.2 J		
TWX-6	Supplementary	BAP	CH-CCR-TWX6-0423	04/26/2023	75	<6	<6	75	<6	0.085	1.0	<0.1	<0.1	250	--	3.4	3.2	--	--	<0.1	--	--	--	11	--	--	--	--	1,400	--	0.97 J		
TWX-6	Supplementary	BAP	CH-CCR-TWX6-1023	11/21/2023	70	<6	<6	70	<6	0.33	1.3	0.55	<0.1	250	--	4.8	4.4	--	--	<0.1	--	--	--	12	--	--	--	--	2,200	--	<1.00		
TWX-7	Supplementary	BAP	CH-CCR-P226E-0621	6/1/2021	70	<6	<6	--	--	0.30	--	3.0	0.059 J	190	--	11	8.4	--	--	<0.25	--	--	--	12	--	<0.5	<0.8	--	2,400	--	1.3		
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1021	10/31/2021	76	<6	<6	76	<6	0.054	<1.6 U	5.9	1.9	210	--	9.0	5.9	--	--	<0.25	--	--	--	9.2	--	--	--	--	1,700	--	1.5		
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0522	05/03/2022	77	<6	<6	77	<6	0.13	1.4	0.55	0.12	220	--	4.0	3.6	--	--	0.99	--	--	--	12	--	--	--	--	1,600	--	1		
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1022	10/27/2022	85	<6	<6	85	<6	0.099	2 J	1.1	0.15	240	--	5.5	3.5	--	--	<0.25	--	--	--	15	--	--	--	--	1,700	--	1.1 J		
TWX-7	Supplementary	BAP	CH-CCR-TWX7-0423	04/26/2023	73	<6	<6	73	<6	<0.05	1.0	0.23	0.15	250	--	2.2	1.1	--	--	0.13	--	--	--	11	--	--	--	--	1,500	--	0.97		
TWX-7	Supplementary	BAP	CH-CCR-TWX7-1023	10/24/2023	76	<6	<6	76	<6	0.32	0.91	0.21	<0.1	240	--	3.2	3.1	--	--	<0.1	--	--	--	16	--	--	--	--	1,500				

**Table D-7
Groundwater Sampling Results for the BAP and FAP Surface Water - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
Monitoring Location	Designation	CCR Unit	Sample ID	Sample Date							
BAP	Surface Water	BAP	CH-BAP-01052012	01/05/2012	5	--	2,800	< 4.0	8.05	3,300	8,600
BAP	Surface Water	BAP	CH-BAP-11072012	11/07/2012	6.7	690	2,600	5.9	--	3,400	8,800
BAP	Surface Water	BAP	CH-BAP-1172012	11/07/2012	5.7	770	3,200	4.8	--	3,200	9,700
BAP	Surface Water	BAP	CH-BAP-031313	03/13/2013	--	--	2,010	--	--	2,700	--
BAP	Surface Water	BAP	CH-BAP-031313_C26660-1	03/13/2013	--	563	--	3.5	7.51	--	7,130
BAP	Surface Water	BAP	CH-BAP-031313_C26660-1F	03/13/2013	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-BAP-0913	09/18/2013	--	--	2,200	--	--	2,800	--
BAP	Surface Water	BAP	CH-BAP-0913_C29829-10	09/18/2013	--	562	--	3.9	8.46	--	7,400
BAP	Surface Water	BAP	CH-BAP-0913_C29829-10F	09/18/2013	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-BAP-0514	05/22/2014	--	--	2,400	--	--	3,300	--
BAP	Surface Water	BAP	CH-BAP-0514_C34218-6	05/22/2014	--	645	--	4.1	8.01	--	10,600
BAP	Surface Water	BAP	CH-BAP-0514_C34218-6F	05/22/2014	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-BAP-1014	10/13/2014	--	564	2,170	4.2	8.11	3,060	8,350
BAP	Surface Water	BAP	CH-BAP-0515	05/04/2015	--	523	1,710	3.8	8.06	2,590	6,880
BAP	Surface Water	BAP	CH-APP-BAP-0615	06/15/2016	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-APP-BP-1016	10/12/2016	--	--	1,900	5.8	8.8	3,300	8,000
BAP	Surface Water	BAP	CH-APP-BP-1016	10/12/2016	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-APP-BAP-60717	06/07/2017	--	--	1,800	4.6	8.8	3,300	7,200
BAP	Surface Water	BAP	CH-APP-BAP-10617	10/06/2017	--	--	1,900	4.1	8.6	3,100	7,500
BAP	Surface Water	BAP	CH-APP-BAP-10617	10/06/2017	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-APP-FBAP-10617	10/06/2017	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-APP-FBAP-10617	10/06/2017	--	--	--	--	--	--	--
BAP	Surface Water	BAP	CH-CCR-BAP-33019	03/30/2019	4.8	550	2,100	3.7	8.3 J	3,100	7,700
BAP	Surface Water	BAP	CH-APP-BAP-42919	04/29/2019	--	--	2,100	3.7	8.2 J	3,100	8,200
BAP	Surface Water	BAP	CH-CCR-BAP-0421	04/16/2021	3.4	560	1,800	3.3	8.9 J	2,900	6,800
BAP	Surface Water	BAP	CH-CCR-BAP-1021	10/31/2021	3.2	540	1,800	3.9	8.4 J	2,900	6,400
BAP	Surface Water	BAP	CH-CCR-BAP-0422	04/21/2022	3.1	530	1,700	3.5	8.4 J	2,700	6,500
BAP	Surface Water	BAP	CH-CCR-SS07-0422	04/21/2022	3.61	688	1,700	2.72 J	8.4 J	2,640	6,640
BAP	Surface Water	BAP	CH-CCR-SS07-0422	04/21/2022	--	--	--	3.21	--	--	--
BAP	Surface Water	BAP	CH-CCR-BAP-1022	10/26/2022	3.2	580	1900	3.0	8.5 J	3100	7100

**Table D-7
Groundwater Sampling Results for the BAP and FAP Surface Water - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
Monitoring Location	Designation	CCR Unit	Sample ID	Sample Date							
BAP	Surface Water	BAP	CH-CCR-BAP-0423	04/26/2023	3.4	590	1,800	< 4	8.3 J	2,800	6,500
BAP	Surface Water	BAP	CH-CCR-BAP-1023	10/13/2023	4.7	560	1,900	4.3	8.3 J	3,100	7,600
FAP	Surface Water	FAP	CH-FAP-01052012	01/05/2012	110	--	10,000	21	7.07	8,400	26,000
FAP	Surface Water	FAP	CH-FAP-1172012	11/07/2012	130	740	11,000	30	--	9,800	30,000
FAP	Surface Water	FAP	CH-FAP-031313	03/13/2013	--	--	10,700	--	--	10,400	--
FAP	Surface Water	FAP	CH-FAP-031313_C26660-2	03/13/2013	118	870	--	15.6	6.56	--	30,200
FAP	Surface Water	FAP	CH-FAP-031313_C26660-2F	03/13/2013	--	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-FAP-0913	09/18/2013	--	--	10,000	--	--	9,600	--
FAP	Surface Water	FAP	CH-FAP-0913_C29829-11	09/18/2013	137	655	--	19.7	5.69	--	34,600
FAP	Surface Water	FAP	CH-FAP-0913_C29829-11F	09/18/2013	--	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-FAP-0514	05/22/2014	--	--	10,000	--	--	9,900	--
FAP	Surface Water	FAP	CH-FAP-0514_C34218-5	05/22/2014	139	694	--	20.3	6.3	--	34,800
FAP	Surface Water	FAP	CH-FAP-1014	10/13/2014	152	860	10,600	37.9	5.8	10,700	36,800
FAP	Surface Water	FAP	CH-FAP-0115	01/17/2015	--	--	--	40.6	6.99	--	34,200
FAP	Surface Water	FAP	CH-FAP-0515	05/04/2015	131	832	8,450	24.7	5.46	9,140	35,000
FAP	Surface Water	FAP	CH-APP-FAP-0615	06/15/2016	--	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-APP-FAP-070516	07/05/2016	--	--	--	49	--	--	--
FAP	Surface Water	FAP	CH-APP-Flyash-1016	10/12/2016	210	--	15,000	53	3	15,000	38,000
FAP	Surface Water	FAP	CH-APP-FPF-1116	11/17/2016	--	--	--	29	--	--	21,000
FAP	Surface Water	FAP	CH-CCR-FAP-1216	12/21/2016	170	600	15,000	55	3.1	17,000	15,000
FAP	Surface Water	FAP	CH-CCR-FAP-1216	12/21/2016	--	--	--	50	--	--	--
FAP	Surface Water	FAP	CH-CCR-M100-1216	12/21/2016	170	610	15,000	55	3.1	16,000	21,000
FAP	Surface Water	FAP	CH-CCR-M100-1216	12/21/2016	--	--	--	51	--	--	--
FAP	Surface Water	FAP	CH-APP-FAP-60717	06/07/2017	230	--	17,000	53	3.8	17,000	46,000
FAP	Surface Water	FAP	CH-APP-FAP-60717	06/07/2017	230	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-APP-FAP-70217	07/02/2017	240	690	--	57	--	--	--
FAP	Surface Water	FAP	CH-APP-FAP-10617	10/06/2017	270	--	19,000	3.9	3.5	20,000	56,000
FAP	Surface Water	FAP	CH-APP-FAP-10617	10/06/2017	--	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-APP-FFAP-10617	10/06/2017	--	--	--	--	--	--	--
FAP	Surface Water	FAP	CH-CCR-FAP-33019	03/30/2019	350	730	24,000	5.1 R	6.7 J	24,000	74,000

**Table D-7
Groundwater Sampling Results for the BAP and FAP Surface Water - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids
					Filtered: Units:	N mg/L	N mg/L	N mg/L	N mg/L	N su	N mg/L
Monitoring Location	Designation	CCR Unit	Sample ID	Sample Date							
FAP	Surface Water	FAP	CH-CCR-FAP-33019	03/30/2019	--	--	--	68 J	--	--	--
FAP	Surface Water	FAP	CH-APP-FAP-42919	04/29/2019	310	--	24,000	69 J	7.1 J	25,000	77,000
FAP	Surface Water	FAP	CH-CCR-FAP-1021	10/31/2021	680	680	54,000	290	5.8 J	52,000	160,000
FAP	Surface Water	FAP	CH-CCR-FAP-0422	04/21/2022	610	710	49,000	120	6.5 J	46,000	100,000
FAP	Surface Water	FAP	CH-CCR-SS11-0422	04/21/2022	632	1340	48,400	69.6 J	6.4 J	46200 J	149,000
FAP	Surface Water	FAP	CH-CCR-SS11-0422	04/21/2022	--	--	--	21.2	--	--	--
FAP	Surface Water	FAP	CH-CCR-FAP-1022	10/26/2022	510	800	41,000	84	6.8 J	38,000	130,000 J
FAP	Surface Water	FAP	CH-CCR-FAP-0423	04/25/2023	500	680	50,000	< 400	7.1 J	44,000	150,000
FAP	Surface Water	FAP	CH-CCR-FAP-1023	10/13/2023	1,000	130	78,000	19	6.1 J	69,000	180,000

Notes:

Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

< = less than

BAP = Bottom Ash Pond

BTV = Background Threshold Value

CCR - Coal Combustion Residual

degrees C = degrees Celsius

FAP = Fly Ash Pond

GWPS = Groundwater Protection Standard

ID = Identification

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

mg/L = milligrams per liter

pCi/L = Picocuries per liter

su = standard units

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

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-8
Groundwater Sampling Results for the BAP and FAP Surface Water - Appendix IV Constituents**

					Appendix IV Constituents																		
					Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium	
Constituent:					N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	
Filtered:					N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
Monitoring Location	Designation	CCR Unit	Sample ID	Sample Date																			
FAP	Surface Water	FAP	CH-CCR-FAP-1022	10/26/2022	0.057	0.36	0.25	0.25	< 0.01	< 0.0004	0.0061	--	0.019	0.016	84	< 0.0005	6.4	< 0.0002	0.88	0.12	0.00028	1.7	
FAP	Surface Water	FAP	CH-CCR-FAP-0423	04/25/2023	0.052 J	0.54	0.069	0.17	< 0.01	< 0.02	< 0.1	--	0.023	0.021	< 400	< 0.02	10	< 0.0002	0.83	0.13	< 0.02	< 0.6	
FAP	Surface Water	FAP	CH-CCR-FAP-1023	10/13/2023	0.11	0.76	0.77	0.14	0.0078	<0.002	<0.02	--	0.020	0.021	19	<0.01	16	<0.0002	1.0	0.13	0.0022	182	

Notes:
Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

- < = less than
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- BTV = Background Threshold Value
- CCR - Coal Combustion Residual
- degrees C = degrees Celsius
- FAP = Fly Ash Pond
- GWPS = Groundwater Protection Standard
- ID = Identification
- J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- mg/L = milligrams per liter
- pCi/L = Picocuries per liter
- su = standard units
- U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UU = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-9
Groundwater Sampling Results for the BAP and FAP Surface Water - Additional Analyses**

Constituent:					Additional Analyses																									
					Alkalinity (as CaCO3)	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity, Phenolphthalei n, as CaCO3	Ammonia (as N)	Chromium, Total (Dissolved)	Chromium, Total (Dissolved)	Dissolved Organic Carbon	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	Sodium	Total Organic Carbon	Uranium
					Filtered: N	N	N	N	N	N	N	Y	Y	N	Y	N	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N
Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L				
Monitoring Location	Designation	CCR Unit	Sample ID	Sample Date																										
FAP	Surface Water	FAP	CH-APP-FFAP-10617	10/06/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
FAP	Surface Water	FAP	CH-CCR-FAP-33019	03/30/2019	36	36	< 6.0	< 6.0	< 6.0	--	--	--	--	--	4900	--	--	--	--	--	--	340	--	--	17,000	--	--			
FAP	Surface Water	FAP	CH-CCR-FAP-33019	03/30/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
FAP	Surface Water	FAP	CH-APP-FAP-42919	04/29/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0021			
FAP	Surface Water	FAP	CH-CCR-FAP-1021	10/31/2021	240	240	< 6	< 6	< 6	0.14	--	--	--	74	3.3	3.1	12000	28	25	--	< 0.25	--	--	520	14.1	< 3.6	32,000	76	--	
FAP	Surface Water	FAP	CH-CCR-FAP-0422	04/21/2022	230	230	< 6	< 6	< 6	0.041 J	--	--	--	140 J	1.2	1.1	12000	27	26	--	< 2.5	--	--	650	< 0.4	< 0.6	33,000	86	--	
FAP	Surface Water	FAP	CH-CCR-SS11-0422	04/21/2022	217	217	< 20	< 20	--	< 4	--	--	--	79.6	--	< 15	< 15	11300	29.6	25.2	--	< 0.1	--	--	621	--	--	34,300	87.5 J	--
FAP	Surface Water	FAP	CH-CCR-SS11-0422	04/21/2022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
FAP	Surface Water	FAP	CH-CCR-FAP-1022	10/26/2022	260	260	< 6	< 6	< 6	0.22	--	--	--	62	--	< 1	0.68	8,200	23	22	--	< 0.25	--	--	410	1.7	< 0.6	24,000	69	--
FAP	Surface Water	FAP	CH-CCR-FAP-0423	04/25/2023	260	260	< 6	< 6	< 6	0.077	--	--	--	62	1.7	1.2	9,500	28	29	--	< 2	--	--	680	< 0.43	< 0.58	26,000	64	--	
FAP	Surface Water	FAP	CH-CCR-FAP-1023	10/13/2023	84	< 6	< 6	84	< 6	0.15	--	--	--	140	--	1.7	0.86	19,000	48	50	--	--	--	910	90	92	51,000	130	--	

Notes:
Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

- < = less than
- BAP = Bottom Ash Pond
- BTV = Background Threshold Value
- CCR - Coal Combustion Residual
- degrees C = degrees Celsius
- FAP = Fly Ash Pond
- GWPS = Groundwater Protection Standard
- ID = Identification
- J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- mg/L = milligrams per liter
- pCi/L = Picocuries per liter
- su = standard units
- U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

**Table D-10
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
					Filtered:	N	N	N	N	N	N
					Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L
<i>BAM BTV</i>					0.55	101	1,600	1.8 / 1.7* / 1.6**	7.3 - 7.8	380	3,225
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID							
M-54	Background	Coconino Sandstone	12/03/2015	7799	0.52	100	1,500	1.2	7.34	380	3,000
M-54	Background	Coconino Sandstone	03/10/2016	CH-M-54-0316	0.53	100	1,600	1.3	7.56	360	2,900
M-54	Background	Coconino Sandstone	05/20/2016	CH-CCR-M54-516	0.51	100	1,500	1.4	--	350	3,000
M-54	Background	Coconino Sandstone	08/27/2016	CH-CCR-M54-816	0.53	110	1,600	1.4	7.5	370	3,100
M-54	Background	Coconino Sandstone	09/22/2016	CH-CCR-M54-916	0.52	99	1,400	1.3	7.7	350	3,200
M-54	Background	Coconino Sandstone	02/21/2017	CH-CCR-M54-217	0.52	100	1,300	1.3	7.7	350	2,900
M-54	Background	Coconino Sandstone	04/11/2017	CH-CCR-M54-41117	0.51	100	1,500	1.3	7.7	360	3,100
M-54	Background	Coconino Sandstone	04/24/2017	CH-CCR-M54-42417	0.53	95	1,500	1.3	7.6	370	3,000
M-54	Background	Coconino Sandstone	05/19/2017	CH-CCR-M54-51917	0.50	99	1,600	1.3	7.8	380	3,200
M-54	Background	Coconino Sandstone	05/25/2017	CH-CCR-M54-52517	0.52	100	1,500	1.4	7.7	370	3,200
M-54	Background	Coconino Sandstone	06/29/2017	CH-CCR-M54-62917	0.51	97	1,600	1.4	7.6	380	2,900
M-54	Background	Coconino Sandstone	07/29/2017	CH-CCR-M54-72917	0.56	100	1,500	1.4	7.4	350	3,100
M-54	Background	Coconino Sandstone	09/05/2017	CH-CCR-M54-90517	0.55	100	1,500	1.4	7.5	370	3,100
M-54	Background	Coconino Sandstone	12/07/2017	CH-CCR-M54-120717	0.51	97	1,600	1.4	7.6	360	3,000
M-54	Background	Coconino Sandstone	05/25/2018	CH-CCR-M-54-52518	0.50	96	1,500	1.4	7.4	350	3,000
M-54	Background	Coconino Sandstone	10/26/2018	CH-CCR-M-54-102618	0.50	100	1,500	1.4	7.5	360	2,900
M-54	Background	Coconino Sandstone	04/09/2019	CH-CCR-M54-40919	0.53	98	1,400	1.3	7.7	340	3,100
M-54	Background	Coconino Sandstone	10/22/2019	CH-CCR-M54-102219	0.49	95	1,500	1.3	7.4 J	350	2,900
M-54	Background	Coconino Sandstone	05/07/2020	CH-CCR-M54-0520	0.51	98	1,400	1.8	7.6 J	360	3,100
M-54	Background	Coconino Sandstone	10/21/2020	CH-CCR-M54-1020	0.48	92	1,500	1.3	7.3 J	350	2,900
M-54	Background	Coconino Sandstone	04/16/2021	CH-CCR-M54-0421	0.52	100	1,700	1.4	7.6 J	420	3,300
M-54	Background	Coconino Sandstone	10/24/2021	CH-CCR-M54-1021	0.50	96	1,500	1.4	7.7 J	400	2,700 J
M-54	Background	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	400 J / 390 J	--
M-54	Background	Coconino Sandstone	11/19/2021	CH-CCR-M54-1121	--	--	--	--	--	370	2,300
M-54	Background	Coconino Sandstone	05/13/2022	CH-CCR-M54-0522	0.50	99	1,400	1.4	7.6 J	360	3,100
M-54	Background	Coconino Sandstone	05/13/2022	CH-CCR-SS01-0522	0.482	96.5	1,480	1.5	8.2 J	353	3,100
M-54	Background	Coconino Sandstone	08/31/2022	CH-CCR-M54-0822	--	--	--	--	7.6 J	--	3,100
M-54	Background	Coconino Sandstone	08/31/2022	CH-CCR-FD01-0822	--	--	--	--	7.5 J	--	3,100
M-54	Background	Coconino Sandstone	10/20/2022	CH-CCR-M54-1022	0.50	93	1,500	1.4	7.5 J	420	3,100
M-54	Background	Coconino Sandstone	1/26/2023	CH-CCR-M54-0123	--	--	1,600	1.4	--	390	--
M-54	Background	Coconino Sandstone	01/26/2023	*DUP* CH-CCR-FD01-0123	--	--	1,500	1.4	--	380	--
M-54	Background	Coconino Sandstone	04/13/2023	CH-CCR-M54-0423	0.53	100	1,500	1.4	7.8 J	370 J	3,100 J

**Table D-10
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAM BTV					0.55	101	1,600	1.8 / 1.7* / 1.6**	7.3 - 7.8	380	3,225
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID							
M-54	Background	Coconino Sandstone	11/21/2023	CH-CCR-M54-1023	0.55	100	1,400	1.3	7.6 J	<400	3,100
M-59	Downgradient Boundary	Coconino Sandstone	12/03/2015	7803	0.50	87	1,300	1.3	7.53	340	2,700
M-59	Downgradient Boundary	Coconino Sandstone	03/10/2016	CH-M-59-0316	0.48	85	1,400	1.3	7.57	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M59-516	0.49	86	1,400	1.4	--	340	2,700
M-59	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M59-816	0.50	89	1,400	1.4	7.6	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M59-916	0.50	88	1,300	1.4	7.8	340	2,900
M-59	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M59-217	0.48	86	1,200	1.3	7.8	330	2,800
M-59	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M59-41117	0.49	90	1,400	1.3	8.1	350	2,800
M-59	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M59-42417	0.52	89	1,300	1.4	7.7	350	2,800
M-59	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M59-51917	0.50	93	1,400	1.4	7.8	360	2,700
M-59	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M59-52517	0.50	88	1,300	1.4	7.6	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M59-62917	0.49	84	1,400	1.5	7.8	370	2,500
M-59	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M59-72917	0.53	92	1,300	1.5	7.6	340	2,800
M-59	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M59-90517	0.51	90	1,300	1.4	7.7	360	2,700
M-59	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M59-120717	0.49	86	1,400	1.4	7.7	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-59-52518	0.49	85	1,400	1.4	7.5	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-59-102618	0.48	88	1,400	1.4	7.6	360	2,500
M-59	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M59-40919	0.50	86	1,200	1.4	7.9 J	330	2,700
M-59	Downgradient Boundary	Coconino Sandstone	10/23/2019	CH-CCR-M59-102319	0.48	84	1,400	1.3	7.5 J	350	2,800
M-59	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M59-0520	0.50	89	1,200	1.8	7.7 J	350	2,800
M-59	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M59-1020	0.48	85	1,300	1.4	7.5 J	340	2,700
M-59	Downgradient Boundary	Coconino Sandstone	01/13/2021		--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M59-0421	0.49	87	1,200	1.4	7.6 J	340	2,800
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-FD01-0421	0.48	86	1,300	1.4	7.8 J	350	2,800
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M59-1021	0.49	84	1,300	1.4	7.7 J	400	2,300 J
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	390 J / 370	--
M-59	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M59-1121	--	--	--	--	--	360	2,600
M-59	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M59-0522	0.50	89	1,200	1.4	7.9 J	350	2,900
M-59	Downgradient Boundary	Coconino Sandstone	08/30/2022	CH-CCR-M59-0822	--	--	--	--	7.6 J	--	--
M-59	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M59-1022	0.48	79	1,200	1.4	7.6 J	350	2,700
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M59-0423	0.51	93	1,300	1.4	7.8 J	360 J	2,800 J
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	*DUP* CH-CCR-FD01-0423	0.51	93	1,400	1.4	7.8 J	350 J	1,100 J

**Table D-10
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAM BTV					0.55	101	1,600	1.8 / 1.7* / 1.6**	7.3 - 7.8	380	3,225
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID							
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	CH-CCR-M59-1023	0.53	90	740 J	1.3 J	7.7 J	320	2,800
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	*DUP* CH-CCR-FD01-1023	0.52	89	1,200 J	1.3	7.7 J	<400	2,800
M-60	Downgradient Boundary	Coconino Sandstone	12/03/2015	7801	0.54	88	1,400	1.3	7.56	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	03/09/2016	CH-M-60A-0316	0.50	86	1,400	1.4	7.83	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M60-516	0.50	89	1,400	1.5	--	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M60-816	0.52	90	1,400	1.5	7.5	360	2,800
M-60	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M60-916	0.51	88	1,300	1.4	7.8	350	3,000
M-60	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M60-217	0.52	91	1,300	1.4	7.8	340	2,800
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M60-41117	0.48	90	1,400	1.4	8.0	360	2,900
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-FD01-41117	0.47	84	1,300	1.4	7.8	370	2,900
M-60	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M60-42417	0.53	86	1,400	1.4	7.8	350	2,700
M-60	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M60-51917	0.53	92	1,400	1.4	7.7	360	2,800
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M60-52517	0.51	86	1,300	1.4	7.7	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M60-62917	0.51	84	1,500	1.5	7.7	440	2,500
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-FD01-62917	0.50	84	1,500	1.5	7.8	380	2,700
M-60	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M60-72917	0.53	89	1,400	1.5	7.6	370	2,800
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M60-90517	0.53	90	1,400	1.5	7.6	360	2,800
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-FD01-90517	0.52	89	1,400	1.5	7.6	360	2,700
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M60-120717	0.50	85	1,500	1.4	7.6	360	2,900
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-FD01-120717	0.51	86	1,400	1.4	7.6	350	2,900
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-60-52518	0.50	83	1,400	1.5	7.5	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-60-102618	0.49	88	1,400	1.4	7.7	350	2,600
M-60	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M60-40919	0.51	84	1,300	1.4	7.7 J	350	2,800
M-60	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M60-102219	0.50	85	1,400	1.4	7.6 J	360	2,800
M-60	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M60-0520	0.50	88	1,200	1.7	7.7 J	350	2,900
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M60-1020	0.48	82	1,400	1.4 J	7.5 J	340	2,900
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	*DUP* CH-CCR-FD01-1020	0.48	83	1,200	1.5 J	7.4 J	340	2,900
M-60	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M60-011321	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M60-0421	0.49	85	1,300	1.5	7.8 J	340	4,200
M-60	Downgradient Boundary	Coconino Sandstone	07/07/2021		--	--	--	--	--	--	2,700
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M60-1021	0.49	85	1,300	1.5	7.6 J	450	2,900 J
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	390 J / 380 J	--

**Table D-10
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
					Filtered: N	N	N	N	N	N	N
					Units: mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
<i>BAM BTV</i>					0.55	101	1,600	1.8 / 1.7* / 1.6**	7.3 - 7.8	380	3,225
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID							
M-60	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M60-1121	--	--	--	--	--	370	2,200
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M60-0522	0.50	87	1,400	1.4	7.8 J	360	3,800
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	*DUP* CH-CCR-FD01-0522	0.52	89	1,300	1.4	7.6 J	350	3,800
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-SS02-0522	0.483	84.8	1,360	1.57	8.2 J	350	2,880
M-60	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M60-0822	--	--	--	--	--	--	2,900
M-60	Downgradient Boundary	Coconino Sandstone	10/20/2022	CH-CCR-M60-1022	0.48	80	1,300	1.5	7.5 J	400	2,700
M-60	Downgradient Boundary	Coconino Sandstone	01/26/2023	CH-CCR-M60-0123	--	--	1,400	1.5	--	380	--
M-60	Downgradient Boundary	Coconino Sandstone	05/10/2023	CH-CCR-M60-0523	0.51	79	1,400	1.4	7.7 J	370	2,800
M-60	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M60-1023	0.53	88	1,300	1.4	7.6 J	<400	2,900
M-61	Downgradient Boundary	Coconino Sandstone	12/03/2015	7802	0.51	90	1,400	1.3	7.22	350	2,800
M-61	Downgradient Boundary	Coconino Sandstone	03/10/2016	CH-M-61-0316	0.49	90	1,400	1.4	7.59	340	2,800
M-61	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M61-516	0.49	89	1,400	1.4	--	350	2,800
M-61	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M61-816	0.50	90	1,400	1.5	7.5	360	2,900
M-61	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M61-916	0.50	90	1,300	1.4	7.9	350	3,000
M-61	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M61-217	0.50	92	1,100	1.4	7.8	340	2,700
M-61	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M61-41117	0.50	93	1,700	1.4	8.0	420	3,000
M-61	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M61-42417	0.52	88	1,400	1.4	7.7	360	2,700
M-61	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M61-51917	0.50	92	1,400	1.3	7.8	370	2,800
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M61-52517	0.51	92	1,400	1.4	7.7	370	2,800
M-61	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M61-62917	0.50	86	1,500	1.5	7.8	380	2,700
M-61	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M61-72917	0.52	94	1,300	1.5	7.6	360	2,900
M-61	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M61-90517	0.50	91	1,400	1.5	7.6	360	2,800
M-61	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M61-120717	0.49	88	1,500	1.4	7.6	360	2,900
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-61-52518	0.48	87	1,400	1.5	7.5	390	2,800
M-61	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-61-102618	0.48	91	1,400	1.4	7.5	360	2,600
M-61	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M61-40919	0.50	88	1,300	1.4	7.7 J	340	2,800
M-61	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M61-102219	0.48	87	1,400	1.4	7.8 J	350	2,700
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M61-0520	0.51	93	1,300	1.6	7.7 J	350	3,000
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	*DUP* CH-CCR-FD01-0520	0.51	93	1,200	1.7	7.6 J	350	2,900
M-61	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M61-1020	0.48	88	1,400	1.4	7.5 J	350	2,700
M-61	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M61-011321	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M61-0421	0.49	91	1,300	1.5	7.8 J	340	2,900

**Table D-10
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix III Constituents**

					Appendix III Constituents						
					Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids
Constituent:					N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L
BAM BTV					0.55	101	1,600	1.8 / 1.7* / 1.6**	7.3 - 7.8	380	3,225
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID							
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M61-1021	0.48	88	1,400	1.4	7.6 J	400	3,200 J
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	400 J / 390 J	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-FD01-1021	0.49	89	1,400	1.4	7.6 J	450	3,000 J
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	400 J / 380 J	--
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M61-1121	--	--	--	--	--	370	2,300
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-FD01-1121	--	--	--	--	--	370	2,300
M-61	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M61-0522	0.49	90	1,200	1.4	7.6 J	360	3,800
M-61	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M61-0822	--	--	--	--	--	--	2,900
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M61-1022	0.49	86	1,300	1.5	7.6 J	360	2,800
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	*DUP* CH-CCR-FD01-1022	0.48	83	1,200	1.5	7.7 J	360	2,800
M-61	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M61-0423	0.51	97	1,400	1.4	7.8 J	350 J	2,900 J
M-61	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M61-1023	0.53	93	1,300	1.3	7.7 J	<400	2,900

Notes:

BTV exceedances are shown in grey shaded cells.

Duplicate sample dates under the same locations are either field duplicates or are instances of samples with multiple filed/lab sample IDs on the same date.

*Fluoride BTV for M-60 is 1.7 mg/L

**Fluoride BTV for M-61 is 1.6 mg/L

Abbreviations and Data Qualifiers:

< = less than

BTV = Background Threshold Value

CCR = Coal Combustion Residual

ID = Identification

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

mg/L = milligrams per liter

pCi/L = Picocuries per liter

su = standard units

**Table D-11
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents															
Constituent:					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium	
Filtered:					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
BAM BTV					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID																
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M59-0421	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-FD01-0421	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M59-1021	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M59-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M59-0522	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	08/30/2022	CH-CCR-M59-0822	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M59-1022	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M59-0423	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	*DUP* CH-CCR-FD01-0423	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	CH-CCR-M59-1023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	*DUP* CH-CCR-FD01-1023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	12/03/2015	7801	< 0.0025	0.0078	0.031	< 0.0010	< 0.00010	< 0.00050	0.00074	1.3	< 0.00050	< 0.20	0.0058	< 0.00020	0.00016	< 0.00010	7.8	
M-60	Downgradient Boundary	Coconino Sandstone	03/09/2016	CH-M-60A-0316	< 0.015	0.0084 j	0.025	< 0.0010	< 0.00046	< 0.0087	< 0.0013	1.4	< 0.0044	< 0.20	0.0058 j	< 0.00020	< 0.0015	< 0.00026	2.6	
M-60	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M60-516	< 0.00010	0.0077	0.023	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	< 0.00050	< 0.20	0.0058	< 0.00020	< 0.00050	< 0.00010	7.9	
M-60	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M60-816	< 0.00010	0.0091	0.025	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	< 0.00050	< 0.20	0.0061	< 0.00020	< 0.00050	< 0.00010	8.7	
M-60	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M60-916	< 0.00050	0.0088	0.023	< 0.0010	< 0.00010	< 0.00050	0.00034	1.4	0.00011	< 0.20	0.0066	< 0.00020	< 0.00060	0.00010	8.3	
M-60	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M60-217	< 0.0010	0.0084	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0058	< 0.00020	< 0.00050	< 0.00010	8.2	
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M60-41117	< 0.0010	0.0087	0.021	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0061	< 0.00020	< 0.00050	< 0.00010	6.9	
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-FD01-41117	< 0.0010	0.0084	0.021	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0059	< 0.00020	< 0.00050	< 0.00010	8.8	
M-60	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M60-42417	< 0.0010	0.0087	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0059	< 0.00020	< 0.00050	< 0.00010	7.2	
M-60	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M60-51917	< 0.0010	0.0079	0.020	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0054	< 0.00020	< 0.00050	< 0.00010	8.6	
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M60-52517	< 0.0010	0.0097	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0060	< 0.00020	< 0.00050	< 0.00010	10.2	
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M60-62917	< 0.0010	0.0086	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	< 0.00050	< 0.20	0.0064	< 0.00020	< 0.00050	< 0.00010	8.1	
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-FD01-62917	< 0.0010	0.0086	0.021	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	0.00090	< 0.20	0.0063	< 0.00020	< 0.00050	< 0.00010	9.0	
M-60	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M60-72917	< 0.0020	0.010	0.027	< 0.0010	0.00037	< 0.0010	< 0.0010	1.5	< 0.0010	< 0.20	0.0075	< 0.00020	< 0.0010	< 0.00020	8.4	
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M60-90517	< 0.0040	0.0097	0.024	< 0.0010	< 0.00040	< 0.0040	< 0.0020	1.5	< 0.0020	< 0.20	0.0065	< 0.00020	< 0.0020	< 0.00040	8.5	
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-FD01-90517	< 0.0040	0.0095	0.023	< 0.0010	< 0.00040	< 0.0040	< 0.0020	1.5	< 0.0020	< 0.20	0.0063	< 0.00020	< 0.0020	< 0.00040	7.6	
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M60-120717	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-FD01-120717	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-60-52518	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-60-102618	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M60-40919	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M60-102219	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M60-0520	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M60-1020	--	--	--	--	--	--	1.4 J	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	*DUP* CH-CCR-FD01-1020	--	--	--	--	--	--	1.5 J	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M60-011321	--	--	--	--	--	--	--	--	0.042	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M60-0421	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	07/07/2021		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M60-1021	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M60-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M60-0522	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	*DUP* CH-CCR-FD01-0522	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-SS02-0522	--	--	--	--	--	--	1.57	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M60-0822	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/20/2022	CH-CCR-M60-1022	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	01/26/2023	CH-CCR-M60-0123	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/10/2023	CH-CCR-M60-0523	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M60-1023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	12/03/2015	7802	< 0.0025	0.0063	0.039	< 0.0010	< 0.00010	0.00093	0.00098	1.3	< 0.00050	< 0.20	0.0064	< 0.00020	0.00019	< 0.00010	7.1	
M-61	Downgradient Boundary	Coconino Sandstone	03/10/2016	CH-M-61-0316	< 0.015	0.010	0.030	< 0.0010	< 0.00046	< 0.0087	< 0.0013	1.4	< 0.0044	< 0.20	0.0063 j	< 0.00020	< 0.0015	< 0.00026	7.3	
M-61	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M61-516	< 0.00010	0.0081	0.025	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0053	< 0.00020	< 0.00050	< 0.00010	7.7	

**Table D-11
Groundwater Sampling Results for the BAM Monitoring Wells - Appendix IV Constituents**

					Appendix IV Constituents														
Constituent:					Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium
Filtered:					N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
BAM BTV					--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID															
M-61	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M61-816	< 0.00010	0.0091	0.027	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	< 0.00050	< 0.20	0.0061	< 0.00020	< 0.00050	< 0.00010	9.8
M-61	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M61-916	< 0.00050	0.0086	0.023	< 0.0010	< 0.00010	< 0.00050	0.00037	1.4	< 0.00010	< 0.20	0.0059	< 0.00020	< 0.00060	< 0.00010	8.3
M-61	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M61-217	< 0.0010	0.0079	0.023	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0057	< 0.00020	< 0.00050	< 0.00010	7.5
M-61	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M61-41117	< 0.0010	0.012	0.023	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0059	< 0.00020	< 0.00050	< 0.00010	7.8
M-61	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M61-42417	< 0.0010	0.0084	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0056	< 0.00020	< 0.00050	< 0.00010	8.6
M-61	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M61-51917	< 0.0010	0.0077	0.020	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.3	< 0.00050	< 0.20	0.0052	< 0.00020	< 0.00050	< 0.00010	8.6
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M61-52517	< 0.0010	0.0098	0.023	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0062	< 0.00020	< 0.00050	< 0.00010	8.7
M-61	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M61-62917	< 0.0010	0.0086	0.022	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.5	< 0.00050	< 0.20	0.0056	< 0.00020	< 0.00050	< 0.00010	8.1
M-61	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M61-72917	< 0.0020	0.0086	0.022	< 0.0010	< 0.00020	< 0.0010	< 0.0010	1.5	< 0.0010	< 0.20	0.0056	< 0.00020	< 0.0010	< 0.00020	8.0
M-61	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M61-90517	< 0.0040	0.0096	0.026	< 0.0010	< 0.00040	< 0.0040	< 0.0020	1.5	< 0.0020	< 0.20	0.0064	< 0.00020	< 0.0020	< 0.00040	8.3
M-61	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M61-120717	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-61-52518	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M61-102618	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M61-40919	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M61-102219	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M61-0520	--	--	--	--	--	--	--	1.6	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	*DUP* CH-CCR-FD01-0520	--	--	--	--	--	--	--	1.7	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M61-1020	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M61-011321	--	--	--	--	--	--	--	--	--	0.045	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M61-0421	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M61-1021	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-FD01-1021	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M61-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-FD01-1121	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M61-0522	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M61-0822	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M61-1022	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	*DUP* CH-CCR-FD01-1022	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M61-0423	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M61-1023	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
 BTV exceedances are shown in grey shaded cells.
 Duplicate sample dates under the same locations are either field duplicates or are instances of samples with multiple filed/lab sample IDs on the same date.
 *Fluoride BTV for M-60 is 1.7 mg/L
 **Fluoride BTV for M-61 is 1.6 mg/L

Abbreviations and Data Qualifiers:
 < = less than
 BTV = Background Threshold Value
 CCR = Coal Combustion Residual
 ID = Identification
 J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
 mg/L = milligrams per liter
 pCi/L = Picocuries per liter
 su = standard units

**Table D-12
Groundwater Sampling Results for the BAM Monitoring Wells - Additional Analyses**

					Additional Analyses									
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO ₂ , Silica	Sodium	
Constituent:					N	N	N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	
BAM BTV					--	--	--	--	--	--	--	--	--	
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID										
M-54	Background	Coconino Sandstone	12/03/2015	7799	220	< 6.0	< 6.0	36	4.5	2.6	1.4	10	1,000	
M-54	Background	Coconino Sandstone	03/10/2016	CH-M-54-0316	--	--	--	--	--	3.6	1.9	--	--	
M-54	Background	Coconino Sandstone	05/20/2016	CH-CCR-M54-516	210	< 6.0	< 6.0	34	4.1	3.6	2.7	8.8	990	
M-54	Background	Coconino Sandstone	08/27/2016	CH-CCR-M54-816	--	--	--	--	--	4.3	3.2	--	--	
M-54	Background	Coconino Sandstone	09/22/2016	CH-CCR-M54-916	--	--	--	--	--	3.7	2.6	--	--	
M-54	Background	Coconino Sandstone	02/21/2017	CH-CCR-M54-217	210	< 6.0	< 6.0	36	4.4	4.1	2.5	--	1,000	
M-54	Background	Coconino Sandstone	04/11/2017	CH-CCR-M54-41117	220	< 6.0	< 6.0	34	4.1	5.1	3.0	--	950	
M-54	Background	Coconino Sandstone	04/24/2017	CH-CCR-M54-42417	220	< 6.0	< 6.0	35	4.3	3.3	2.3	--	1,000	
M-54	Background	Coconino Sandstone	05/19/2017	CH-CCR-M54-51917	220	< 6.0	< 6.0	35	4.0	5.7	2.7	--	950	
M-54	Background	Coconino Sandstone	05/25/2017	CH-CCR-M54-52517	220	< 6.0	< 6.0	36	4.2	5.9	3.7	--	1,000	
M-54	Background	Coconino Sandstone	06/29/2017	CH-CCR-M54-62917	220	< 6.0	< 6.0	35	4.1	6.1	2.9	--	970	
M-54	Background	Coconino Sandstone	07/29/2017	CH-CCR-M54-72917	220	< 6.0	< 6.0	37	4.2	3.8	2.7	--	990	
M-54	Background	Coconino Sandstone	09/05/2017	CH-CCR-M54-90517	220	< 6.0	< 6.0	36	4.2	3.9	2.5	--	1,000	
M-54	Background	Coconino Sandstone	12/07/2017	CH-CCR-M54-120717	220	< 6.0	< 6.0	33	4.1	--	--	--	940	
M-54	Background	Coconino Sandstone	05/25/2018	CH-CCR-M-54-52518	220	< 6.0	< 6.0	33	3.9	--	--	--	920	
M-54	Background	Coconino Sandstone	10/26/2018	CH-CCR-M-54-102618	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	04/09/2019	CH-CCR-M54-40919	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	10/22/2019	CH-CCR-M54-102219	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	05/07/2020	CH-CCR-M54-0520	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	10/21/2020	CH-CCR-M54-1020	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	04/16/2021	CH-CCR-M54-0421	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	10/24/2021	CH-CCR-M54-1021	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	11/19/2021	CH-CCR-M54-1121	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	05/13/2022	CH-CCR-M54-0522	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	05/13/2022	CH-CCR-SS01-0522	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	08/31/2022	CH-CCR-M54-0822	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	08/31/2022	CH-CCR-FD01-0822	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	10/20/2022	CH-CCR-M54-1022	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	1/26/2023	CH-CCR-M54-0123	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	01/26/2023	*DUP* CH-CCR-FD01-0123	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	04/13/2023	CH-CCR-M54-0423	--	--	--	--	--	--	--	--	--	
M-54	Background	Coconino Sandstone	11/21/2023	CH-CCR-M54-1023	--	--	--	--	--	--	--	--	--	

**Table D-12
Groundwater Sampling Results for the BAM Monitoring Wells - Additional Analyses**

					Additional Analyses									
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO ₂ , Silica	Sodium	
Constituent:					N	N	N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	
BAM BTV					--	--	--	--	--	--	--	--	--	
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID										
M-59	Downgradient Boundary	Coconino Sandstone	12/03/2015	7803	210	< 6.0	< 6.0	32	4.3	3.2	2.2	9.5	910	
M-59	Downgradient Boundary	Coconino Sandstone	03/10/2016	CH-M-59-0316	--	--	--	--	--	3.1	2.3	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M59-516	210	< 6.0	< 6.0	31	4.0	4.6	2.8	8.9	870	
M-59	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M59-816	--	--	--	--	--	5.2	2.9	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M59-916	--	--	--	--	--	4.2	3.0	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M59-217	210	< 6.0	< 6.0	31	4.1	5.2	2.5	--	880	
M-59	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M59-41117	220	< 6.0	< 6.0	31	4.0	5.4	2.3	--	870	
M-59	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M59-42417	220	< 6.0	< 6.0	32	4.2	4.6	3.4	--	950	
M-59	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M59-51917	220	< 6.0	< 6.0	32	4.2	5.1	2.0	--	920	
M-59	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M59-52517	220	< 6.0	< 6.0	32	4.1	4.9	3.1	--	910	
M-59	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M59-62917	220	< 6.0	< 6.0	31	3.9	5.2	3.8	--	860	
M-59	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M59-72917	220	< 6.0	< 6.0	33	4.1	4.5	3.4	--	900	
M-59	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M59-90517	220	< 6.0	< 6.0	32	4.1	4.6	3.0	--	910	
M-59	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M59-120717	220	< 6.0	< 6.0	30	3.9	--	--	--	860	
M-59	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-59-52518	220	< 6.0	< 6.0	30	3.9	--	--	--	850	
M-59	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-59-102618	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M59-40919	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	10/23/2019	CH-CCR-M59-102319	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M59-0520	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M59-1020	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	01/13/2021		--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M59-0421	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-FD01-0421	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M59-1021	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M59-1121	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M59-0522	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	08/30/2022	CH-CCR-M59-0822	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M59-1022	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M59-0423	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	04/12/2023	*DUP* CH-CCR-FD01-0423	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	CH-CCR-M59-1023	--	--	--	--	--	--	--	--	--	
M-59	Downgradient Boundary	Coconino Sandstone	11/21/2023	*DUP* CH-CCR-FD01-1023	--	--	--	--	--	--	--	--	--	

**Table D-12
Groundwater Sampling Results for the BAM Monitoring Wells - Additional Analyses**

					Additional Analyses									
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO ₂ , Silica	Sodium	
Constituent:					N	N	N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	
BAM BTV					--	--	--	--	--	--	--	--	--	
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID										
M-60	Downgradient Boundary	Coconino Sandstone	12/03/2015	7801	210	< 6.0	< 6.0	32	4.2	4.0	3.8	9.4	960	
M-60	Downgradient Boundary	Coconino Sandstone	03/09/2016	CH-M-60A-0316	--	--	--	--	--	< 0.2	2.6	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M60-516	210	< 6.0	< 6.0	30	3.9	4.2	3.7	8.7	950	
M-60	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M60-816	--	--	--	--	--	5.4	3.3	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M60-916	--	--	--	--	--	5.2	3.1	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M60-217	210	< 6.0	< 6.0	31	4.2	4.3	3.9	--	960	
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M60-41117	220	< 6.0	< 6.0	29	3.8	4.4	2.5	--	890	
M-60	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-FD01-41117	220	< 6.0	< 6.0	29	3.7	4.8	4.0	--	880	
M-60	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M60-42417	220	< 6.0	< 6.0	32	4.1	4.8	2.4	--	970	
M-60	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M60-51917	220	< 6.0	< 6.0	32	4.0	6.1	2.5	--	950	
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M60-52517	220	< 6.0	< 6.0	31	3.9	4.8	5.4	--	950	
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M60-62917	220	< 6.0	< 6.0	31	3.8	5.0	3.1	--	910	
M-60	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-FD01-62917	220	< 6.0	< 6.0	30	3.9	4.8	4.2	--	930	
M-60	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M60-72917	220	< 6.0	< 6.0	31	3.8	5.0	3.4	--	900	
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M60-90517	220	< 6.0	< 6.0	32	4.2	4.9	3.6	--	970	
M-60	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-FD01-90517	220	< 6.0	< 6.0	31	4.0	4.4	3.2	--	930	
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M60-120717	220	< 6.0	< 6.0	29	3.8	--	--	--	890	
M-60	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-FD01-120717	220	< 6.0	< 6.0	29	3.9	--	--	--	900	
M-60	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-60-52518	230	< 6.0	< 6.0	29	3.6	--	--	--	870	
M-60	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-60-102618	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M60-40919	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M60-102219	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M60-0520	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M60-1020	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/21/2020	*DUP* CH-CCR-FD01-1020	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M60-011321	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M60-0421	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	07/07/2021		--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M60-1021	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M60-1121	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M60-0522	--	--	--	--	--	--	--	--	--	
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	*DUP* CH-CCR-FD01-0522	--	--	--	--	--	--	--	--	--	

**Table D-12
Groundwater Sampling Results for the BAM Monitoring Wells - Additional Analyses**

					Additional Analyses								
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO ₂ , Silica	Sodium
Constituent:					N	N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L
BAM BTV					--	--	--	--	--	--	--	--	--
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID									
M-60	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-SS02-0522	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M60-0822	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	10/20/2022	CH-CCR-M60-1022	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	01/26/2023	CH-CCR-M60-0123	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	05/10/2023	CH-CCR-M60-0523	--	--	--	--	--	--	--	--	--
M-60	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M60-1023	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	12/03/2015	7802	210	< 6.0	< 6.0	33	4.0	3.8	3.3	9.3	950
M-61	Downgradient Boundary	Coconino Sandstone	03/10/2016	CH-M-61-0316	--	--	--	--	--	4.5	2.8	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/20/2016	CH-CCR-M61-516	210	< 6.0	< 6.0	31	3.7	4.3	3.4	8.8	890
M-61	Downgradient Boundary	Coconino Sandstone	08/27/2016	CH-CCR-M61-816	--	--	--	--	--	5.7	4.1	--	--
M-61	Downgradient Boundary	Coconino Sandstone	09/22/2016	CH-CCR-M61-916	--	--	--	--	--	5.2	3.1	--	--
M-61	Downgradient Boundary	Coconino Sandstone	02/22/2017	CH-CCR-M61-217	210	< 6.0	< 6.0	32	4.2	4.2	3.3	--	930
M-61	Downgradient Boundary	Coconino Sandstone	04/11/2017	CH-CCR-M61-41117	220	< 6.0	< 6.0	32	3.8	5.4	2.4	--	910
M-61	Downgradient Boundary	Coconino Sandstone	04/24/2017	CH-CCR-M61-42417	220	< 6.0	< 6.0	33	4.0	5.0	3.6	--	960
M-61	Downgradient Boundary	Coconino Sandstone	05/19/2017	CH-CCR-M61-51917	220	< 6.0	< 6.0	32	3.8	4.9	3.7	--	910
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2017	CH-CCR-M61-52517	220	< 6.0	< 6.0	33	3.9	5.2	3.5	--	960
M-61	Downgradient Boundary	Coconino Sandstone	06/29/2017	CH-CCR-M61-62917	220	< 6.0	< 6.0	32	3.8	4.6	3.5	--	910
M-61	Downgradient Boundary	Coconino Sandstone	07/29/2017	CH-CCR-M61-72917	220	< 6.0	< 6.0	33	3.9	4.8	3.2	--	920
M-61	Downgradient Boundary	Coconino Sandstone	09/05/2017	CH-CCR-M61-90517	220	< 6.0	< 6.0	32	3.9	4.9	3.4	--	910
M-61	Downgradient Boundary	Coconino Sandstone	12/07/2017	CH-CCR-M61-120717	220	< 6.0	< 6.0	31	3.9	--	--	--	910
M-61	Downgradient Boundary	Coconino Sandstone	05/25/2018	CH-CCR-M-61-52518	230	< 6.0	< 6.0	30	3.6	--	--	--	860
M-61	Downgradient Boundary	Coconino Sandstone	10/26/2018	CH-CCR-M-61-102618	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/09/2019	CH-CCR-M61-40919	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/22/2019	CH-CCR-M61-102219	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	CH-CCR-M61-0520	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	05/07/2020	*DUP* CH-CCR-FD01-0520	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/21/2020	CH-CCR-M61-1020	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	01/13/2021	CH-CCR-M61-011321	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	04/16/2021	CH-CCR-M61-0421	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-M61-1021	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	CH-CCR-FD01-1021	--	--	--	--	--	--	--	--	--
M-61	Downgradient Boundary	Coconino Sandstone	10/24/2021	re-analysis	--	--	--	--	--	--	--	--	--

**Table D-12
Groundwater Sampling Results for the BAM Monitoring Wells - Additional Analyses**

					Additional Analyses									
					Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO ₂ , Silica	Sodium	
Constituent:					N	N	N	N	N	N	N	N	N	N
Filtered:					N	N	N	N	N	N	N	N	N	N
Units:					mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	
<i>BAM BTV</i>					--	--	--	--	--	--	--	--	--	
Monitoring Location	Designation	CCR Unit	Sample Date	Sample ID										
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-M61-1121	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	11/19/2021	CH-CCR-FD01-1121	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	05/13/2022	CH-CCR-M61-0522	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	08/31/2022	CH-CCR-M61-0822	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	CH-CCR-M61-1022	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	10/19/2022	*DUP* CH-CCR-FD01-1022	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	04/12/2023	CH-CCR-M61-0423	--	--	--	--	--	--	--	--	--	
M-61	Downgradient Boundary	Coconino Sandstone	11/20/2023	CH-CCR-M61-1023	--	--	--	--	--	--	--	--	--	

Notes:

BTV exceedances are shown in grey shaded cells.

Duplicate sample dates under the same locations are either field duplicates or are instances of samples with multiple filed/lab sample IDs on the same date.

*Fluoride BTV for M-60 is 1.7 mg/L

**Fluoride BTV for M-61 is 1.6 mg/L

Abbreviations and Data Qualifiers:

< = less than

BTV = Background Threshold Value

CCR = Coal Combustion Residual

ID = Identification

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

mg/L = milligrams per liter

pCi/L = Picocuries per liter

su = standard units

APPENDIX

E

WSP TECHNICAL
MEMORANDUM
DOCUMENTING THE
STATISTICAL ANALYSIS OF
APPENDIX III CONSTITUENT
DATA COLLECTED FOR THE
BAM THROUGH JANUARY 2023



TECHNICAL MEMORANDUM

To: Arizona Public Service Company **Project No.** 14-2022-2007

By: Samantha O'Shea **Reviewed by:** Maren Henley, PE

Tel: 602-733-6000 **CC:** File

Date: April 10, 2023

Re: **CCR GROUNDWATER DETECTION MONITORING
STATISTICAL ANALYSIS AND RESULTS FOR THE BOTTOM ASH MONOFILL
APPENDIX III CONSTITUENT DATA COLLECTED THROUGH JANUARY 2023
Arizona Public Service Company Cholla Power Plant - Navajo County, Arizona**

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

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Geosciences Consulting LLC (Geosciences Consulting), a subcontractor to WSP USA Environment and Infrastructure, Inc. (WSP) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The BAM is a Site CCR unit that is currently in the detection monitoring program. The CCR Rule requires semi-annual evaluations of Appendix III constituent data collected from BAM downgradient wells on an ongoing basis to determine if a statistically significant increase (SSI) over background threshold values (BTVs) has occurred. The statistical evaluation documented herein incorporates Appendix III constituent data collected from BAM downgradient wells MW-59, MW-60, and MW-61 and BAM background well M-54 during the October 2022 semi-annual sampling event and a January 2023 resampling event. The BAM detection monitoring program consists of eleven (11) sampling rounds starting in November 2017.

To address an initial exceedance of the sulfate BTV at MW-60 in October 2022, in accordance with the Statistical Data Analysis Workplan (SDAWP) (WSP, 2023) developed for the Site and the U.S. EPA's Unified Guidance (USEPA 2009), resampling was implemented in January 2023. The detection results for sulfate at MW-60 of the resampling event fell under the associated BTV, and therefore the initial October 2022 exceedance is determined to be statistically insignificant. Details of the results of the statistical evaluation are presented in Section 2.0.



2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation conducted by Geosciences Consulting. The results of the evaluation are summarized as follows:

- In October 2022, sulfate was detected at a concentration of 400 milligrams per liter (mg/L) at MW-60, which is above the BTV of 380 mg/L; but was detected at a concentration of 380 mg/L in January 2023. Therefore, the initial exceedance is statistically insignificant.
- There are currently no SSIs over BTVs for Appendix III constituents at the BAM downgradient wells.
- A statistically significant decreasing temporal trend is evident for concentrations of chloride at MW-59, concentrations of boron and calcium at MW-60, and concentrations of boron at MW-61. A statistically significant increasing temporal trend is evident for concentrations of fluoride at MW-59.

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in **Attachment A** and pursuant to the CCR Rule, continuation of detection monitoring at a semi-annual frequency for Appendix III constituents at the BAM is warranted because there are currently no SSIs over Appendix III constituent BTVs. WSP also recommends trend testing after each monitoring event and updates to the BTVs after 1-2 years of future sampling events.


The BAM SDAWP recommends updating BTVs every couple of years. There are several Appendix III constituents in background well M-54 (**Attachment A**), including chloride and sulfate, that exhibit concentrations in exceedance of their respective BTVs (Table 1 of **Attachment A**) in recent years. This is one indication that the BTVs need updating to assure they are representative of current groundwater conditions at the BAM.

4.0 REFERENCES

- Federal Register, 2020. 40 Code of Federal Regulations Part 257 - Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments).
- United States Environmental Protection Agency (USEPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.
- WSP USA Environment & Infrastructure, Inc. (WSP), 2023. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Four Corners Power Plant, Fruitland, New Mexico. Prepared for Arizona Public Service. January 10, 2023.

ATTACHMENT A

**DETECTION MONITORING
STATISTICAL EVALUATION OF BAM -
GEOSCIENCE CONSULTING
STRATEGIES LLC**



Technical Memorandum

To: Maren Henley, PE
WSP USA Environment & Infrastructure Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: April 3, 2023

**Subject: CCR Groundwater Semiannual Detection Monitoring
Statistical Evaluation of BAM Data through October 2022
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona**

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the ongoing statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the *Statistical Data Analysis Work Plan* (SDAWP) for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2020; WSP USA Environment & Infrastructure Inc. [WSP], 2023).

This statistical evaluation incorporates the October 2022 semiannual detection monitoring at the BAM, and any corresponding resample events, as necessary. The following sections present data inputs, statistical methods, results and recommendations for the subject analysis.

2.0 DATA INPUTS

The BAM groundwater monitoring well network consists of one background monitoring well (M-54) and three compliance (i.e., downgradient) monitoring wells (M-59, M-60 and M-61).

The BAM detection monitoring program performs statistical evaluations semiannually. The period of evaluation for this subject analysis ranges from November 2015 through October 2022 and includes:

- 1) the minimum of eight initial, or baseline, sampling rounds required by the CCR Rule and eleven subsequent sampling rounds of detection monitoring that occur on a semi-annual frequency; and
- 2) a January 2023 resampling event to confirm the initial exceedance declaration for sulfate during the October 2022 sampling event (see Table 2).

This data evaluation evaluates between 23 and 27 samples each for boron, calcium, chloride, sulfate, field pH and total dissolved solids (TDS) within each compliance monitoring well. The BAM detection monitoring program consists of eleven sampling rounds starting in November 2017:

BAM Sampling Round	Date
1 st	November 2017
2 nd	April 2018
3 rd	November 2018
4 th	May 2019
5 th	December 2019
6 th	June 2020
7 th	November 2020
8 th	April 2021
9 th	November 2021
10 th	May 2022
11 th	October 2022

Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling).

Appendix A contains the contents of the ProUCL data upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, WSP. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention, each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0." The detection frequency is 100% for all sample data listed in Appendix A.

Table 1 details the not-to-exceed Background Threshold Values (BTVs) and method of calculation for the BAM.

3.0 METHODS

This statistical analysis follows the statistical methods and approaches put forth in the BAM SDAWP (WSP, 2023) and the United States Environmental Protection Agency (US EPA) Unified Guidance (2009). The subject statistical analysis consists of: 1) exploratory data analysis (EDA), including outlier analysis, calculating summary statistics, temporal trend analysis and fitting a statistical distribution model (i.e., Goodness-of-Fit Test Statistics) to sample populations and 2) comparing the October 2022 sample concentrations to corresponding not-to-exceed BTVs in Table 1. If an exceedance exists, the statistical significance of this exceedance is assessed through the prescribed resampling strategy. For this statistical analysis, the January 2023 resampling event fulfills the 1 of 3 resampling strategy for sulfate at MW-60.

4.0 RESULTS

Table 2 summarizes: 1) which Appendix III constituents exhibit exceedances above their respective BTVs by compliance well and 2) which constituents exhibit statistically significant ($p < 0.05$) temporal trends.

Appendix B contains the raw ProUCL EDA outputs as reference for the following statistical findings:

Monitoring Well M-59. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the October 2022 sampling event.

The statistically significant ($p < 0.05$) trends for chloride (decreasing) and fluoride (increasing) remain persistent at this monitoring location during the October 2022 sampling event. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents.

Monitoring Well M-60. The October 2022 sampling event resulted in an initial exceedance for sulfate at this monitoring location. The January 2023 sulfate resample concentration falls below its BTV and, therefore, declares the October 2022 initial exceedance statistically insignificant ($p < 0.05$). The remaining Appendix III constituent concentrations do not show exceedances over their respective BTVs for the October 2022 sampling event.

The statistically significant ($p < 0.05$) decreasing time series trends for boron and calcium at this monitoring location remain persistent during the October 2022 sampling event. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents.

Monitoring Well M-61. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the October 2022 sampling event.

The statistically significant ($p < 0.05$) decreasing trend for boron is persistent at this monitoring location. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents at this monitoring location.

5.0 RECOMMENDATIONS

The results herein indicate the BAM should continue Detection Monitoring in accordance with 40 Code of Federal Regulations Section 257.94 (Federal Register, 2020).

The BAM SDAWP recommends updating BTVs every couple of years. There are several Appendix III constituents in background well M-54 (see Appendix A), including chloride and sulfate, that exhibit concentrations in exceedance of their respective BTVs (see Table 1) in recent years. This is one indication that the BTVs in Table 1 need updating to assure they are representative of current groundwater conditions at the BAM.

6.0 REFERENCES

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

WSP USA Environment & Infrastructure Inc. [WSP], 2023, 2023. Statistical Data Analysis Work Plan. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant. Navajo County, Arizona. Prepared for Arizona Public Service. January 30, 2023.

United States Environmental Protection Agency (US EPA), 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

ATTACHMENTS

Table 1 – BTVs and Intrawell UPLs for the Cholla BAM

Table 2 – Cholla BAM Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table

Appendix B – ProUCL EDA Output Files

TABLES

Table 1
BTVs and Intrawell UPLs for the Cholla BAM
Appendix III Statistical Analysis

Background Well	Dates Corresponding to Data Used to Derive UPL	Constituent	BTV (Calculation Method)	Units	Resampling Strategy ¹
M-54	12/3/2015-10/21/2020	Boron	0.55 (P-UPLT)	mg/L	1 of 2
M-54	12/3/2015-10/21/2020	Calcium	101 (NP-UPLT)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Chloride	1,600 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	pH (upper limit)	7.8 (P-UPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	pH (lower limit)	7.3 (P-LPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	Sulfate	380 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	TDS	3225 (P-UPL)	mg/L	1 of 2

Compliance Well	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell UPL (Calculation Method ¹)	Units	Resampling Strategy
M-60	12/3/15-4/16/2021	Fluoride	1.7 (NP-UPL)	mg/L	1 of 2
M-61	12/3/15-4/16/2021	Fluoride	1.6 (NP-UPL)	mg/L	1 of 2

Notes:

BAM = Bottom Ash Pond

BTV = background threshold value

LPL = lower prediction limit

mg/L = milligrams per liter

NP = Non Parametric

P = Parametric

SU = standard units

TDS = total dissolved solids

UPL = upper prediction limit

¹ A 1 of 2 resampling strategy is in place for interwell parametric prediction limits. A 1 of 2 or a 1 of 3 resampling strategy is in place for non-parametric prediction limits and the limit represents the second highest concentration (i.e., second-order) value or the maximum concentration value of the data set (i.e., maximum order statistic), respectively. The BTV for calcium represents the second highest concentration value because the maximum concentration value is a perceived outlier and was removed from the evaluation.

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-59	7803_O	03-Dec-15	0.5	87	1300	1.3	7.53	340	2700
M-59	CH-M-59-0316_O	10-Mar-16	0.48	85	1400	1.3	7.57	350	2700
M-59	CH-CCR-M59-516_O	20-May-16	0.49	86	1400	1.4	---	340	2700
M-59	CH-CCR-M59-816_O	27-Aug-16	0.5	89	1400	1.4	7.6	350	2700
M-59	CH-CCR-M59-916_O	22-Sep-16	0.5	88	1300	1.4	7.8	340	2900
M-59	CH-CCR-M59-217_O	22-Feb-17	0.48	86	1200	1.3	7.8	330	2800
M-59	CH-CCR-M59-41117_O	11-Apr-17	0.49	90	1400	1.3	8.1	350	2800
M-59	CH-CCR-M59-42417_O	24-Apr-17	0.52	89	1300	1.4	7.7	350	2800
M-59	CH-CCR-M59-51917_O	19-May-17	0.5	93	1400	1.4	7.8	360	2700
M-59	CH-CCR-M59-52517_O	25-May-17	0.5	88	1300	1.4	7.6	350	2700
M-59	CH-CCR-M59-62917_O	29-Jun-17	0.49	84	1400	1.5	7.8	370	2500
M-59	CH-CCR-M59-72917_O	29-Jul-17	0.53	92	1300	1.5	7.6	340	2800
M-59	CH-CCR-M59-90517_O	05-Sep-17	0.51	90	1300	1.4	7.7	360	2700
M-59	CH-CCR-M59-120717_O	07-Dec-17	0.49	86	1400	1.4	7.7	350	2700
M-59	CH-CCR-M-59-52518_O	25-May-18	0.49	85	1400	1.4	7.5	350	2700
M-59	CH-CCR-M-59-102618	26-Oct-18	0.48	88	1400	1.4	7.6	360	2500
M-59	CH-CCR-M59-40919	09-Apr-19	0.5	86	1200	1.4	7.9	330	2700
M-59	CH-CCR-M59-102319	23-Oct-19	0.48	84	1400	1.3	7.5	350	2800
M-59	CH-CCR-M59-0520	07-May-20	0.5	89	1200	1.8	7.7	350	2800
M-59	CH-CCR-M59-1020	21-Oct-20	0.48	85	1300	1.4	7.5	340	2700
M-59	CH-CCR-M59-0421	16-Apr-21	0.49	87	1200	1.4	7.6	340	2800
M-59	CH-CCR-M59-1021	24-Oct-21	0.49	84	1300	1.4	7.7	400	2300
M-59	CH-CCR-M59-1121	19-Nov-21	NA	NA	NA	NA	NA	360	2600
M-59	CH-CCR-M59-0522	13-May-22	0.5	89	1200	1.4	7.9	350	2900
M-59	CH-CCR-M59-0822	30-Aug-22	---	---	---	---	7.6	---	---
M-59	CH-CCR-M59-1022	19-Oct-22	0.48	79	1200	1.4	7.6	350	2700
Units:			mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
BTV or Intrawell UPL ^{1,2} :			0.55	101	1600	1.8	7.8/7.3	380	3225
Temporal Trend ³ :			None	None	Decreasing	Increasing	None	None	None

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-60	7801_O	03-Dec-15	0.54	88	1400	1.3	7.56	350	2800
M-60	CH-M-60A-0316_O	09-Mar-16	0.5	86	1400	1.4	7.83	350	2800
M-60	CH-CCR-M60-516_O	20-May-16	0.5	89	1400	1.5	---	350	2800
M-60	CH-CCR-M60-816_O	27-Aug-16	0.52	90	1400	1.5	7.5	360	2800
M-60	CH-CCR-M60-916_O	22-Sep-16	0.51	88	1300	1.4	7.8	350	3000
M-60	CH-CCR-M60-217_O	22-Feb-17	0.52	91	1300	1.4	7.8	340	2800
M-60	CH-CCR-M60-41117_O	11-Apr-17	0.48	90	1400	1.4	8	360	2900
M-60	CH-CCR-M60-42417_O	24-Apr-17	0.53	86	1400	1.4	7.8	350	2700
M-60	CH-CCR-M60-51917_O	19-May-17	0.53	92	1400	1.4	7.7	360	2800
M-60	CH-CCR-M60-52517_O	25-May-17	0.51	86	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-62917_O	29-Jun-17	0.51	84	1500	1.5	7.7	440	2500
M-60	CH-CCR-M60-72917_O	29-Jul-17	0.53	89	1400	1.5	7.6	370	2800
M-60	CH-CCR-M60-90517_O	05-Sep-17	0.53	90	1400	1.5	7.6	360	2800
M-60	CH-CCR-M60-120717_O	07-Dec-17	0.5	85	1500	1.4	7.6	360	2900
M-60	CH-CCR-M-60-52518_O	25-May-18	0.5	83	1400	1.5	7.5	350	2800
M-60	CH-CCR-M-60-102618	26-Oct-18	0.49	88	1400	1.4	7.7	350	2600
M-60	CH-CCR-M60-40919	09-Apr-19	0.51	84	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-102219	22-Oct-19	0.5	85	1400	1.4	7.6	360	2800
M-60	CH-CCR-M60-0520	07-May-20	0.5	88	1200	1.7	7.7	350	2900
M-60	CH-CCR-M60-1020	21-Oct-20	0.48	82	1400	1.4	7.5	340	2900
M-60	CH-CCR-M60-0421	16-Apr-21	0.49	85	1300	1.5	7.8	340	4200
M-60	CH-CCR-M60-0721	07-Jul-21	---	---	---	---	---	---	2700
M-60	CH-CCR-M60-1021	24-Oct-21	0.49	85	1300	1.5	7.6	450	2900
M-60	CH-CCR-M60-1121	19-Nov-21	NA	NA	NA	NA	NA	370	2200
M-60	CH-CCR-M60-0522	13-May-22	0.5	87	1400	1.4	7.8	360	3800
M-60	CH-CCR-M60-0822	31-Aug-22	---	---	---	---	---	---	2900
M-60	CH-CCR-M60-1022	20-Oct-22	0.48	80	1300	1.5	7.5	400	2700
M-60	CH-CCR-M60-0123	26-Jan-23	---	---	1400	1.5	---	380	---
<i>Units:</i>			<i>mg/L</i>	<i>mg/L</i>	<i>mg/L</i>	<i>mg/L</i>	<i>SU</i>	<i>mg/L</i>	<i>mg/L</i>

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
		<i>BTV or Intrawell UPL^{1,2}:</i>	<i>0.55</i>	<i>101</i>	<i>1600</i>	<i>1.7</i>	<i>7.8/7.3</i>	<i>380</i>	<i>3225</i>
		<i>Temporal Trend³:</i>	<i>Decreasing</i>	<i>Decreasing</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>	<i>None</i>

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-61	7802_O	03-Dec-15	0.51	90	1400	1.3	7.22	350	2800
M-61	CH-M-61-0316_O	10-Mar-16	0.49	90	1400	1.4	7.59	340	2800
M-61	CH-CCR-M61-516_O	20-May-16	0.49	89	1400	1.4	---	350	2800
M-61	CH-CCR-M61-816_O	27-Aug-16	0.5	90	1400	1.5	7.5	360	2900
M-61	CH-CCR-M61-916_O	22-Sep-16	0.5	90	1300	1.4	7.9	350	3000
M-61	CH-CCR-M61-217_O	22-Feb-17	0.5	92	1100	1.4	7.8	340	2700
M-61	CH-CCR-M61-41117_O	11-Apr-17	0.5	93	1700	1.4	8	420	3000
M-61	CH-CCR-M61-42417_O	24-Apr-17	0.52	88	1400	1.4	7.7	360	2700
M-61	CH-CCR-M61-51917_O	19-May-17	0.5	92	1400	1.3	7.8	370	2800
M-61	CH-CCR-M61-52517_O	25-May-17	0.51	92	1400	1.4	7.7	370	2800
M-61	CH-CCR-M61-62917_O	29-Jun-17	0.5	86	1500	1.5	7.8	380	2700
M-61	CH-CCR-M61-72917_O	29-Jul-17	0.52	94	1300	1.5	7.6	360	2900
M-61	CH-CCR-M61-90517_O	05-Sep-17	0.5	91	1400	1.5	7.6	360	2800
M-61	CH-CCR-M61-120717_O	07-Dec-17	0.49	88	1500	1.4	7.6	360	2900
M-61	CH-CCR-M-61-52518_O	25-May-18	0.48	87	1400	1.5	7.5	390	2800
M-61	CH-CCR-M-61-102618	26-Oct-18	0.48	91	1400	1.4	7.5	360	2600
M-61	CH-CCR-M61-40919	09-Apr-19	0.5	88	1300	1.4	7.7	340	2800
M-61	CH-CCR-M61-102219	22-Oct-19	0.48	87	1400	1.4	7.8	350	2700
M-61	CH-CCR-M61-0520	07-May-20	0.51	93	1300	1.6	7.7	350	3000
M-61	CH-CCR-M61-1020	21-Oct-20	0.48	88	1400	1.4	7.5	350	2700
M-61	CH-CCR-M61-0421	16-Apr-21	0.49	91	1300	1.5	7.8	340	2900
M-61	CH-CCR-M61-1021	24-Oct-21	0.48	88	1400	1.4	7.6	400	3200
M-61	CH-CCR-M61-1121	19-Nov-21	---	---	---	---	---	370	2300
M-61	CH-CCR-M61-0522	13-May-22	0.49	90	1200	1.4	7.6	360	3800
M-61	CH-CCR-M61-0822	31-Aug-22	---	---	---	---	---	---	2900
M-61	CH-CCR-M61-1022	22-Oct-19	0.49	86	1300	1.5	7.7	360	2800
		Units:	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
		BTV or Intrawell UPL ^{1,2} :	0.55	101	1600	1.6	7.8/7.3	380	3225
		Temporal Trend ³ :	Decreasing	None	None	None	None	None	None

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS

Notes:

BTV = background threshold value
 mg/L = milligrams per liter
 TDS = total dissolved solids
 UPL = upper prediction limit
 SU = standard units

0.50	Value from baseline monitoring period (December 2015 to September 2017)
	Reported value in current sampling round exceeds the BTV or UPL
	Statistically significant increasing trend present
	Statistically significant decreasing trend present
None	Insufficient evidence to identify a trend.

¹ New values calculated for this sampling round presented in bolded red text; ⁵ see Table 1 for relevant BTV and Intrawell UPL information

² For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively. Values represent field pH measurements.

³ Temporal trends evaluated with Mann-Kendall trend tests (p<0.05); tied values (sequential sample concentrations)

APPENDIX A

PROUCL DATA UPLOAD TABLE

Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-54	7799	12/3/2015	0.52	1	100	1	1500	1	1.2	1	7.34	1	380	1	3000	1
M-54	CH-M-54-0316	3/10/2016	0.53	1	100	1	1600	1	1.3	1	7.56	1	360	1	2900	1
M-54	CH-CCR-M54-516	5/20/2016	0.51	1	100	1	1500	1	1.4	1	NA	NA	350	1	3000	1
M-54	CH-CCR-M54-816	8/27/2016	0.53	1	110	1	1600	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-916	9/22/2016	0.52	1	99	1	1400	1	1.4	1	7.7	1	350	1	3200	1
M-54	CH-CCR-M54-217	2/21/2017	0.52	1	100	1	1300	1	1.3	1	7.7	1	350	1	2900	1
M-54	CH-CCR-M54-41117	4/11/2017	0.51	1	100	1	1500	1	1.2	1	7.7	1	360	1	3100	1
M-54	CH-CCR-M54-42417	4/24/2017	0.53	1	95	1	1500	1	1.3	1	7.6	1	370	1	3000	1
M-54	CH-CCR-M54-51917	5/19/2017	0.5	1	99	1	1600	1	1.3	1	7.8	1	380	1	3200	1
M-54	CH-CCR-M54-52517	5/25/2017	0.52	1	100	1	1500	1	1.4	1	7.7	1	370	1	3200	1
M-54	CH-CCR-M54-62917	6/29/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	380	1	2900	1
M-54	CH-CCR-M54-72917	7/29/2017	0.56	1	100	1	1500	1	1.4	1	7.4	1	350	1	3100	1
M-54	CH-CCR-M54-90517	9/5/2017	0.55	1	100	1	1500	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-120717	12/7/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	360	1	3000	1
M-54	CH-CCR-M-54-52518	5/25/2018	0.5	1	96	1	1500	1	1.4	1	7.4	1	350	1	3000	1
M-54	CH-CCR-M-54-102618	10/26/2018	0.5	1	100	1	1500	1	1.4	1	7.5	1	360	1	2900	1
M-54	CH-CCR-M54-40919	4/9/2019	0.53	1	98	1	1400	1	1.3	1	7.7	1	340	1	3100	1
M-54	CH-CCR-M54-102219	10/22/2019	0.49	1	95	1	1500	1	1.3	1	7.4	1	350	1	2900	1
M-54	CH-CCR-M54-0520	5/7/2020	0.51	1	98	1	1400	1	1.8	1	7.6	1	360	1	3100	1
M-54	CH-CCR-M54-1020	10/21/2020	0.48	1	92	1	1500	1	1.3	1	7.3	1	350	1	2900	1
M-54	CH-CCR-M54-0421	4/16/2021	0.52	1	100	1	1700	1	1.4	1	7.6	1	420	1	3300	1
M-54	CH-CCR-M54-1021	10/24/2021	0.5	1	96	1	1500	1	1.4	1	7.7	1	400	1	2700	1
M-54	CH-CCR-M54-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2300	1
M-54	CH-CCR-M54-0522	5/13/2022	0.5	1	99	1	1400	1	1.4	1	7.6	1	360	1	3100	1
M-54	CH-CCR-M54-0822	8/31/2022	NA	NA	NA	NA	NA	NA	NA	NA	7.6	1	NA	NA	3100	1
M-54	CH-CCR-M54-1022	10/20/2022	0.5	1	93	1	1500	1	1.4	1	7.5	1	420	1	3100	1
M-54	CH-CCR-M54-0123	1/26/2023	NA	NA	NA	NA	1600	1	1.4	1	NA	NA	390	1	NA	NA
M-59	7803	12/3/2015	0.5	1	87	1	1300	1	1.3	1	7.53	1	340	1	2700	1
M-59	CH-M-59-0316	3/10/2016	0.48	1	85	1	1400	1	1.3	1	7.57	1	350	1	2700	1
M-59	CH-CCR-M59-516	5/20/2016	0.49	1	86	1	1400	1	1.4	1	NA	NA	340	1	2700	1
M-59	CH-CCR-M59-816	8/27/2016	0.5	1	89	1	1400	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-916	9/22/2016	0.5	1	88	1	1300	1	1.4	1	7.8	1	340	1	2900	1
M-59	CH-CCR-M59-217	2/22/2017	0.48	1	86	1	1200	1	1.3	1	7.8	1	330	1	2800	1
M-59	CH-CCR-M59-41117	4/11/2017	0.49	1	90	1	1400	1	1.3	1	8.1	1	350	1	2800	1
M-59	CH-CCR-M59-42417	4/24/2017	0.52	1	89	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-51917	5/19/2017	0.5	1	93	1	1400	1	1.4	1	7.8	1	360	1	2700	1
M-59	CH-CCR-M59-52517	5/25/2017	0.5	1	88	1	1300	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-62917	6/29/2017	0.49	1	84	1	1400	1	1.5	1	7.8	1	370	1	2500	1
M-59	CH-CCR-M59-72917	7/29/2017	0.53	1	92	1	1300	1	1.5	1	7.6	1	340	1	2800	1
M-59	CH-CCR-M59-90517	9/5/2017	0.51	1	90	1	1300	1	1.4	1	7.7	1	360	1	2700	1
M-59	CH-CCR-M59-120717	12/7/2017	0.49	1	86	1	1400	1	1.4	1	7.7	1	350	1	2700	1
M-59	CH-CCR-M-59-52518	5/25/2018	0.49	1	85	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-59	CH-CCR-M-59-102618	10/26/2018	0.48	1	88	1	1400	1	1.4	1	7.6	1	360	1	2500	1
M-59	CH-CCR-M59-40919	4/9/2019	0.5	1	86	1	1200	1	1.4	1	7.9	1	330	1	2700	1
M-59	CH-CCR-M59-102319	10/23/2019	0.48	1	84	1	1400	1	1.3	1	7.5	1	350	1	2800	1
M-59	CH-CCR-M59-0520	5/7/2020	0.5	1	89	1	1200	1	1.8	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-1020	10/21/2020	0.48	1	85	1	1300	1	1.4	1	7.5	1	340	1	2700	1
M-59	CH-CCR-M59-0421	4/16/2021	0.49	1	87	1	1200	1	1.4	1	7.6	1	340	1	2800	1

Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-59	CH-CCR-M59-1021	10/24/2021	0.49	1	84	1	1300	1	1.4	1	7.7	1	400	1	2300	1
M-59	CH-CCR-M59-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	360	1	2600	1
M-59	CH-CCR-M59-0522	5/13/2022	0.5	1	89	1	1200	1	1.4	1	7.9	1	350	1	2900	1
M-59	CH-CCR-M59-0822	8/30/2022	NA	NA	NA	NA	NA	NA	NA	NA	7.6	1	NA	NA	NA	NA
M-59	CH-CCR-M59-1022	10/19/2022	0.48	1	79	1	1200	1	1.4	1	7.6	1	350	1	2700	1
M-60	7801	12/3/2015	0.54	1	88	1	1400	1	1.3	1	7.56	1	350	1	2800	1
M-60	CH-M-60A-0316	3/9/2016	0.5	1	86	1	1400	1	1.4	1	7.83	1	350	1	2800	1
M-60	CH-CCR-M60-516	5/20/2016	0.5	1	89	1	1400	1	1.5	1	NA	NA	350	1	2800	1
M-60	CH-CCR-M60-816	8/27/2016	0.52	1	90	1	1400	1	1.5	1	7.5	1	360	1	2800	1
M-60	CH-CCR-M60-916	9/22/2016	0.51	1	88	1	1300	1	1.5	1	7.8	1	350	1	3000	1
M-60	CH-CCR-M60-217	2/22/2017	0.52	1	91	1	1300	1	1.4	1	7.8	1	340	1	2800	1
M-60	CH-CCR-M60-41117	4/11/2017	0.48	1	90	1	1400	1	1.4	1	8	1	360	1	2900	1
M-60	CH-CCR-M60-42417	4/24/2017	0.53	1	86	1	1400	1	1.4	1	7.8	1	350	1	2700	1
M-60	CH-CCR-M60-51917	5/19/2017	0.53	1	92	1	1400	1	1.4	1	7.7	1	360	1	2800	1
M-60	CH-CCR-M60-52517	5/25/2017	0.51	1	86	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-62917	6/29/2017	0.51	1	84	1	1500	1	1.5	1	7.7	1	440	1	2500	1
M-60	CH-CCR-M60-72917	7/29/2017	0.53	1	89	1	1400	1	1.5	1	7.6	1	370	1	2800	1
M-60	CH-CCR-M60-90517	9/5/2017	0.53	1	90	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-120717	12/7/2017	0.5	1	85	1	1500	1	1.4	1	7.6	1	360	1	2900	1
M-60	CH-CCR-M-60-52518	5/25/2018	0.5	1	83	1	1400	1	1.5	1	7.5	1	350	1	2800	1
M-60	CH-CCR-M-60-102618	10/26/2018	0.49	1	88	1	1400	1	1.4	1	7.7	1	350	1	2600	1
M-60	CH-CCR-M60-40919	4/9/2019	0.51	1	84	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-102219	10/22/2019	0.5	1	85	1	1400	1	1.4	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-0520	5/7/2020	0.5	1	88	1	1200	1	1.7	1	7.7	1	350	1	2900	1
M-60	CH-CCR-M60-1020	10/21/2020	0.48	1	82	1	1400	1	1.4	1	7.5	1	340	1	2900	1
M-60	CH-CCR-M60-0421	4/16/2021	0.49	1	85	1	1300	1	1.5	1	7.8	1	340	1	4200	1
M-60	CH-CCR-M60-0721	7/7/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2700	NA
M-60	CH-CCR-M60-1021	10/24/2021	0.49	1	85	1	1300	1	1.5	1	7.6	1	450	1	2900	1
M-60	CH-CCR-M60-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2200	1
M-60	CH-CCR-M60-0522	5/13/2022	0.5	1	87	1	1400	1	1.4	1	7.8	1	360	1	3800	1
M-60	CH-CCR-M60-0822	8/31/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2900	1
M-60	CH-CCR-M60-1022	10/20/2022	0.48	1	80	1	1300	1	1.5	1	7.5	1	400	1	2700	1
M-60	CH-CCR-M60-0123	1/26/2023	NA	NA	NA	A	1400	1	1.5	1	NA	NA	380	1	NA	NA
M-61	7802	12/3/2015	0.51	1	90	1	1400	1	1.3	1	7.22	1	350	1	2800	1
M-61	CH-M-61-0316	3/10/2016	0.49	1	90	1	1400	1	1.4	1	7.59	1	340	1	2800	1
M-61	CH-CCR-M61-516	5/20/2016	0.49	1	89	1	1400	1	1.4	1	NA	NA	350	1	2800	1
M-61	CH-CCR-M61-816	8/27/2016	0.5	1	90	1	1400	1	1.5	1	7.5	1	360	1	2900	1
M-61	CH-CCR-M61-916	9/22/2016	0.5	1	90	1	1300	1	1.5	1	7.9	1	350	1	3000	1
M-61	CH-CCR-M61-217	2/22/2017	0.5	1	92	1	1100	1	1.4	1	7.8	1	340	1	2700	1
M-61	CH-CCR-W61-217	2/22/2017	NA	NA	NA	NA	NA	NA	1.5	1	NA	NA	NA	NA	NA	NA
M-61	CH-CCR-M61-41117	4/11/2017	0.5	1	93	1	1700	1	1.3	1	8	1	420	1	3000	1
M-61	CH-CCR-M61-42417	4/24/2017	0.52	1	88	1	1400	1	1.4	1	7.7	1	360	1	2700	1
M-61	CH-CCR-M61-51917	5/19/2017	0.5	1	92	1	1400	1	1.3	1	7.8	1	370	1	2800	1
M-61	CH-CCR-M61-52517	5/25/2017	0.51	1	92	1	1400	1	1.4	1	7.7	1	370	1	2800	1
M-61	CH-CCR-M61-62917	6/29/2017	0.5	1	86	1	1500	1	1.5	1	7.8	1	380	1	2700	1
M-61	CH-CCR-M61-72917	7/29/2017	0.52	1	94	1	1300	1	1.5	1	7.6	1	360	1	2900	1
M-61	CH-CCR-M61-90517	9/5/2017	0.5	1	91	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-61	CH-CCR-M61-120717	12/7/2017	0.49	1	88	1	1500	1	1.4	1	7.6	1	360	1	2900	1

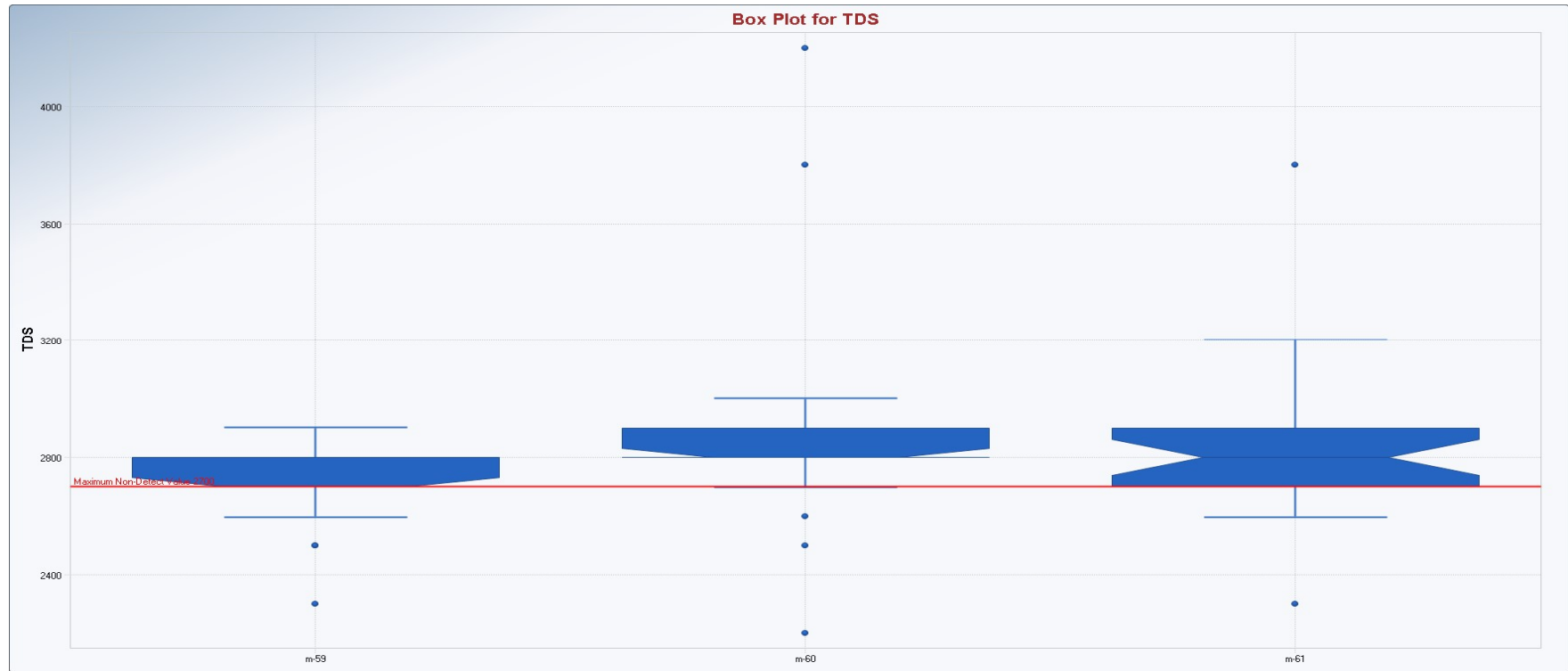
Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-61	CH-CCR-M-61-52518	5/25/2018	0.48	1	87	1	1400	1	1.5	1	7.5	1	390	1	2800	1
M-61	CH-CCR-M-61-102618	10/26/2018	0.48	1	91	1	1400	1	1.4	1	7.5	1	360	1	2600	1
M-61	CH-CCR-M61-40919	4/9/2019	0.5	1	88	1	1300	1	1.4	1	7.7	1	340	1	2800	1
M-61	CH-CCR-M61-102219	10/22/2019	0.48	1	87	1	1400	1	1.4	1	7.8	1	350	1	2700	1
M-61	CH-CCR-M61-0520	5/7/2020	0.51	1	93	1	1300	1	1.6	1	7.7	1	350	1	3000	1
M-61	CH-CCR-M61-1020	10/21/2020	0.48	1	88	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-61	CH-CCR-M61-0421	4/16/2021	0.49	1	91	1	1300	1	1.5	1	7.8	1	340	1	2900	1
M-61	CH-CCR-M61-1021	10/24/2021	0.48	1	88	1	1400	1	1.4	1	7.6	1	400	1	3200	1
M-61	CH-CCR-M61-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2300	1
M-61	CH-CCR-M61-0522	5/13/2022	0.49	1	90	1	1200	1	1.4	1	7.6	1	360	1	3800	1
M-61	CH-CCR-M61-0822	8/31/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2900	1
M-61	CH-CCR-M61-1022	10/19/2022	0.49	1	86	1	1300	1	1.5	1	7.7	1	360	1	2800	1

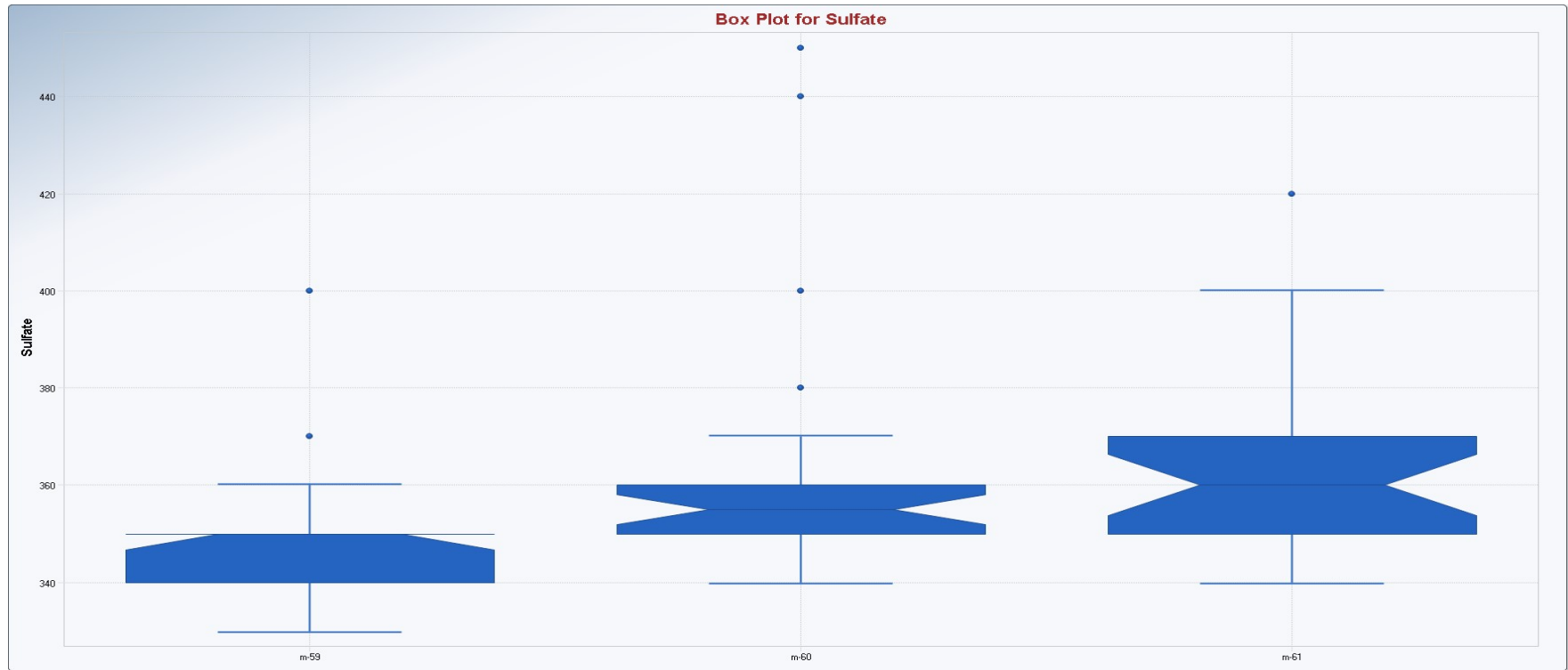
APPENDIX B

PROUCL EDA OUTPUT FILES

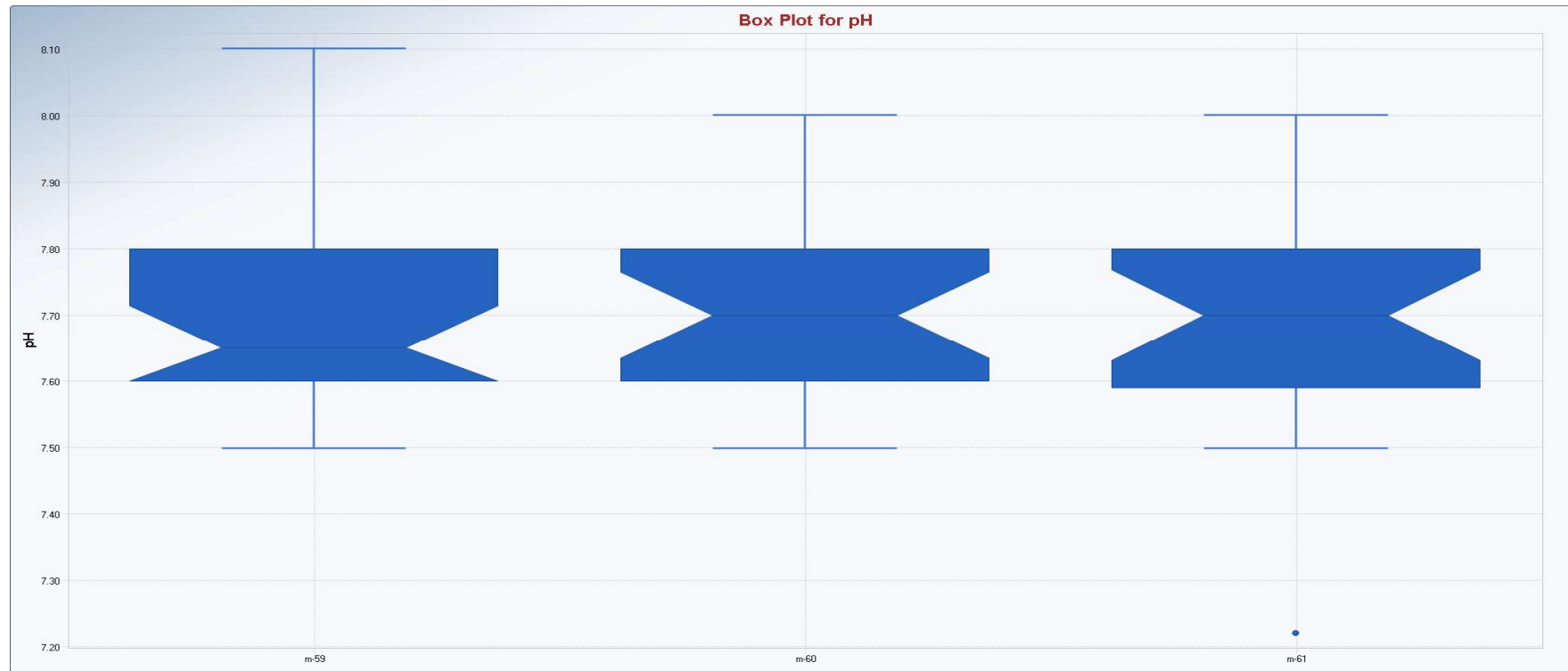
Appendix B Box and Whisker Plots



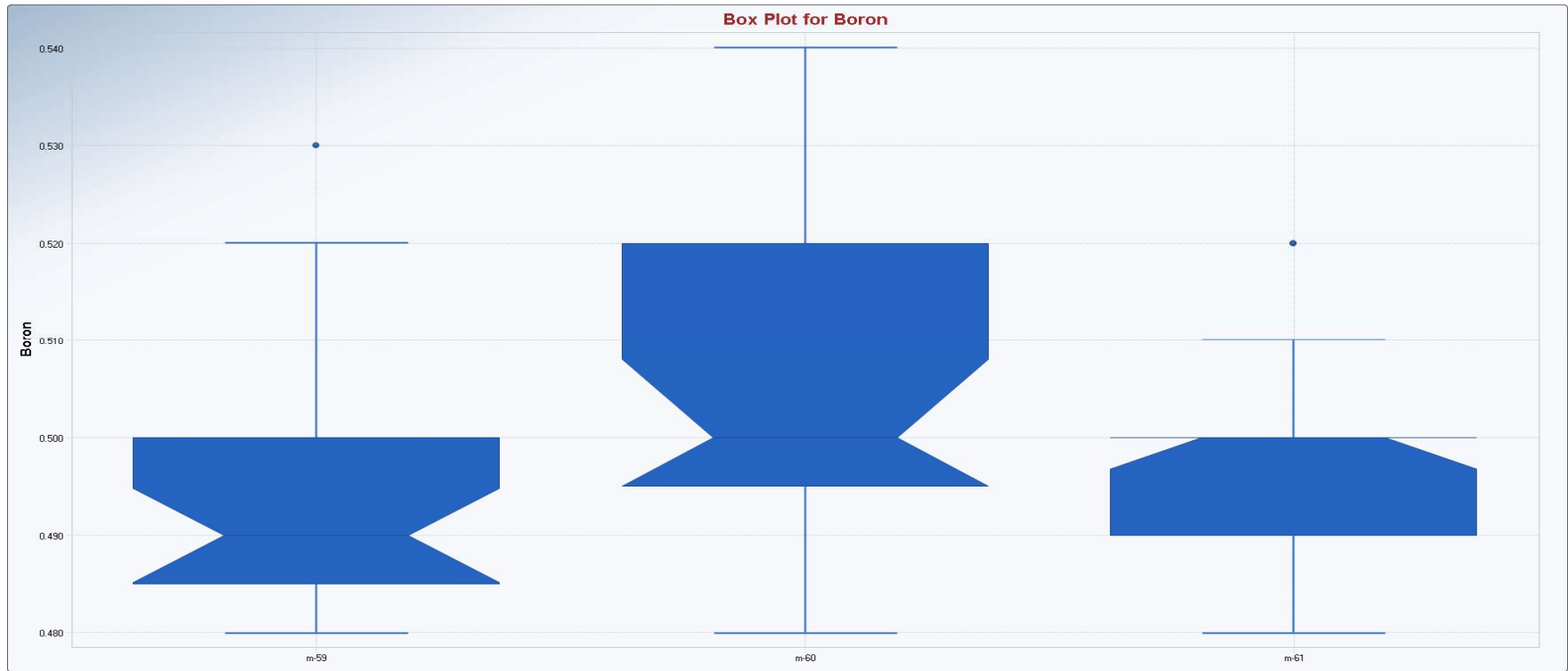
Appendix B Box and Whisker Plots



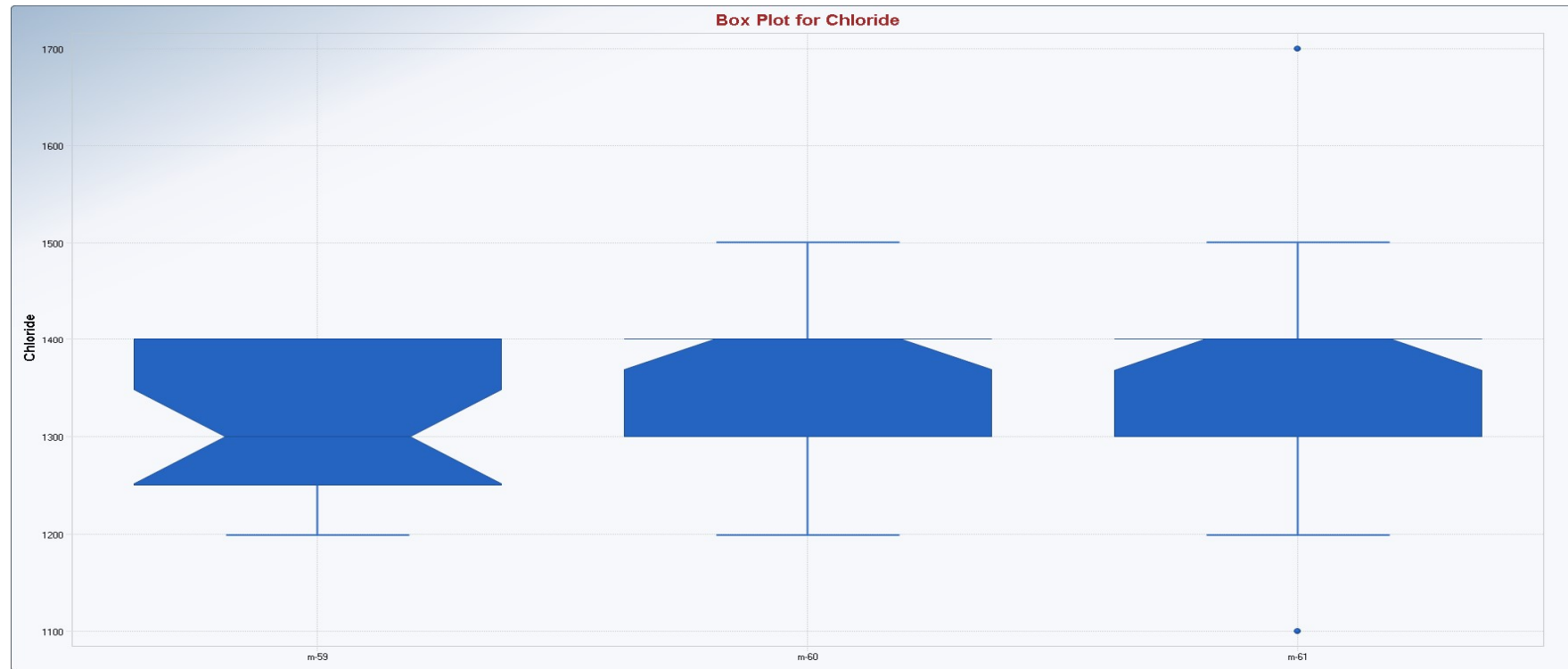
Appendix B Box and Whisker Plots



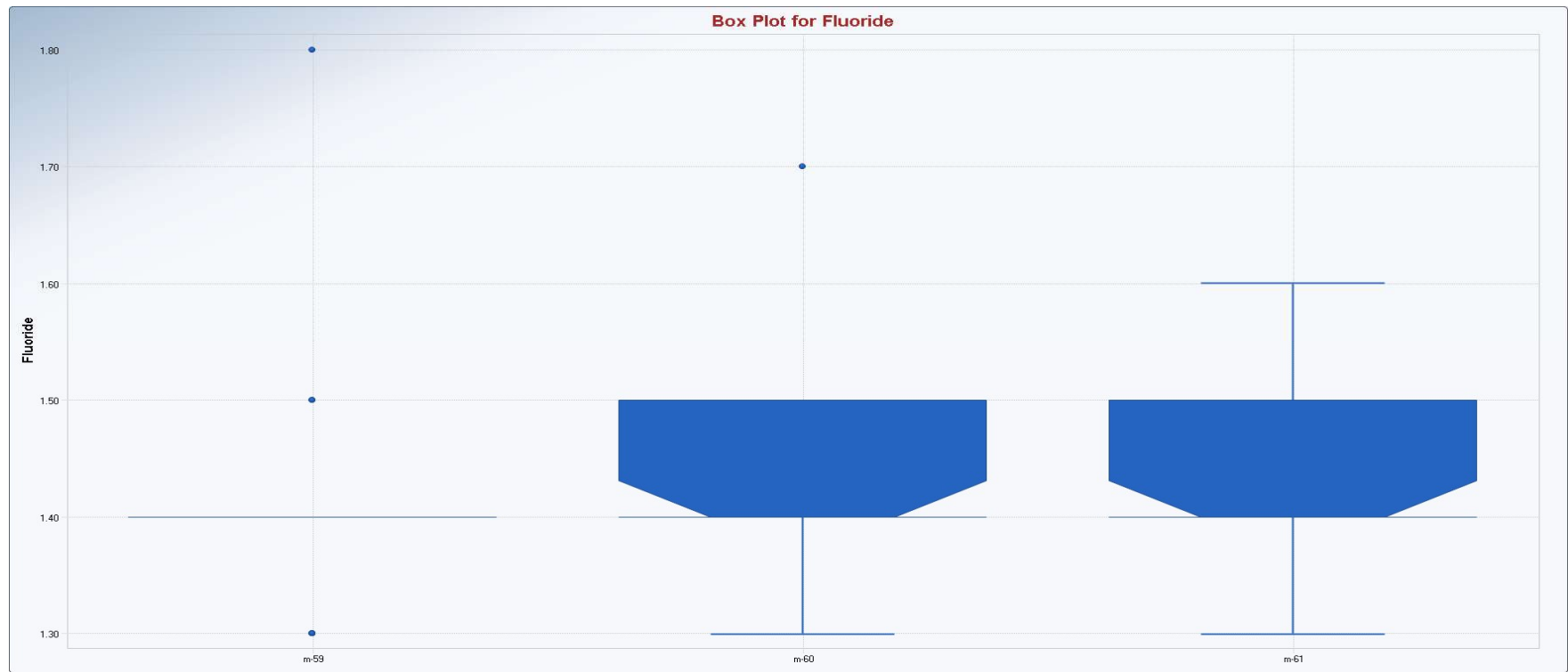
Appendix B Box and Whisker Plots



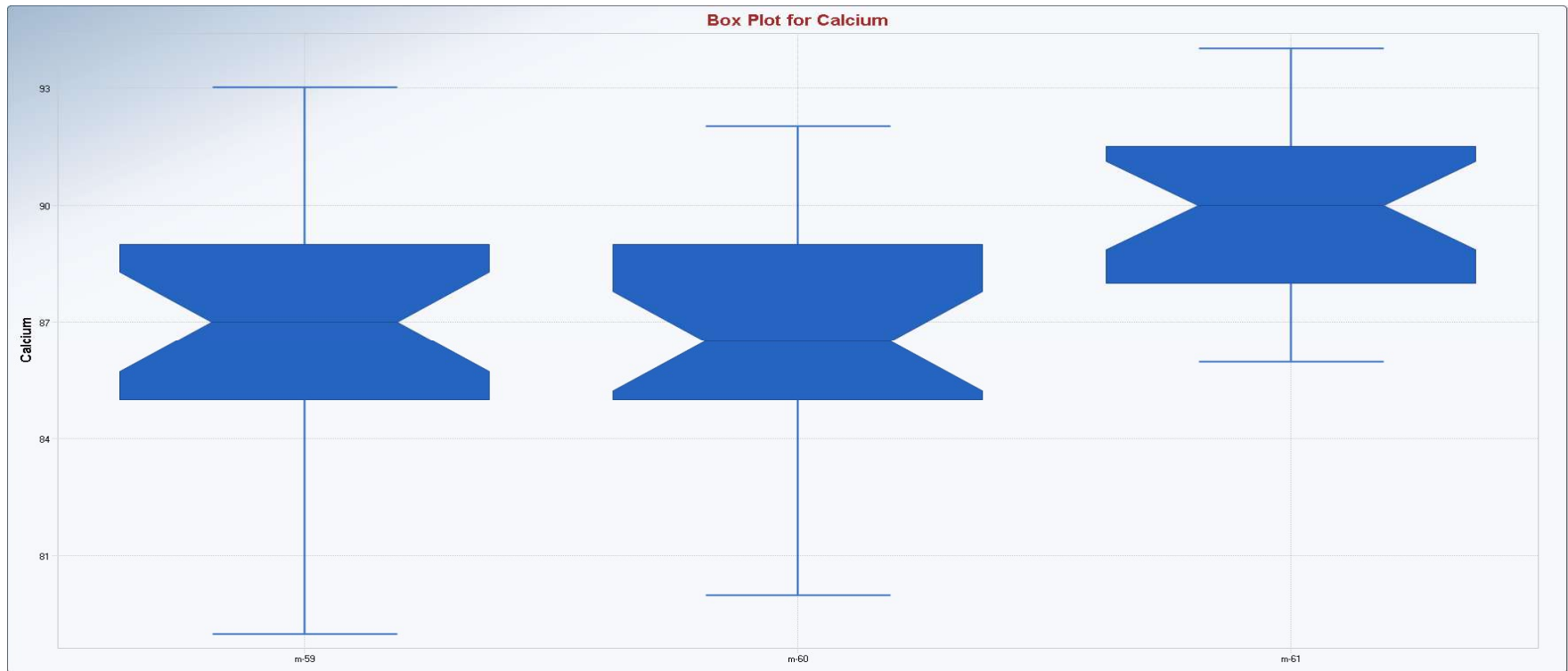
Appendix B Box and Whisker Plots



Appendix B Box and Whisker Plots



Appendix B Box and Whisker Plots



Appendix B Goodness of Fit Statistics

User Selected Options		Goodness-of-Fit Test Statistics for Uncensored Full Data Sets without Non-Detects					
Date/Time of Computation	ProUCL 5.13/31/2023 8:48:20 AM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Boron (m-59)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	2						
Number of Distinct Observations	6						
Minimum	0.48						
Maximum	0.53						
Mean of Raw Data	0.495						
Standard Deviation of Raw Data	0.0128						
Khat	1571						
Theta hat	3.1485E-4						
Kstar	1375						
Theta star	3.5983E-4						
Mean of Log Transformed Data	-0.704						
Standard Deviation of Log Transformed Data	0.0257						
Normal GOF Test Results							
Correlation Coefficient R	0.93						
Shapiro Wilk Test Statistic	0.865						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.00357						
Lilliefors Test Statistic	0.212						
Lilliefors Critical (0.05) Value	0.177						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.933						
A-D Test Statistic	1.115						
A-D Critical (0.05) Value	0.742						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
K-S Test Statistic	0.205						
K-S Critical(0.05) Value	0.177						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.934						
Shapiro Wilk Test Statistic	0.871						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.00468						
Lilliefors Test Statistic	0.206						
Lilliefors Critical (0.05) Value	0.177						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Boron (m-60)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	4						
Number of Distinct Observations	7						
Minimum	0.48						
Maximum	0.54						
Mean of Raw Data	0.506						
Standard Deviation of Raw Data	0.0174						
Khat	887.3						
Theta hat	5.7052E-4						
Kstar	776.5						
Theta star	6.5200E-4						
Mean of Log Transformed Data	-0.681						
Standard Deviation of Log Transformed Data	0.0343						
Normal GOF Test Results							
Correlation Coefficient R	0.973						
Shapiro Wilk Test Statistic	0.935						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.128						
Lilliefors Test Statistic	0.182						
Lilliefors Critical (0.05) Value	0.177						
Data appear Approximate Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.972						
A-D Test Statistic	0.623						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.182						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.974						
Shapiro Wilk Test Statistic	0.936						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.14						
Lilliefors Test Statistic	0.177						
Lilliefors Critical (0.05) Value	0.177						
Data appear Approximate_Lognormal at (0.05) Significance Level							
Boron (m-61)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	3						
Number of Distinct Observations	5						
Minimum	0.48						
Maximum	0.52						
Mean of Raw Data	0.496						
Standard Deviation of Raw Data	0.0121						
Khat	1765						
Theta hat	2.8112E-4						
Kstar	1545						
Theta star	3.2127E-4						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Mean of Log Transformed Data	-0.701						
Standard Deviation of Log Transformed Data	0.0243						
Normal GOF Test Results							
Correlation Coefficient R	0.96						
Shapiro Wilk Test Statistic	0.908						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.0316						
Lilliefors Test Statistic	0.17						
Lilliefors Critical (0.05) Value	0.177						
Data appear Approximate Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.96						
A-D Test Statistic	0.849						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.169						
K-S Critical(0.05) Value	0.177						
Data follow Appr. Gamma Distribution at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.96						
Shapiro Wilk Test Statistic	0.909						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.0332						
Lilliefors Test Statistic	0.168						
Lilliefors Critical (0.05) Value	0.177						
Data appear Approximate_Lognormal at (0.05) Significance Level							
Calcium (m-59)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	2						
Number of Distinct Observations	10						
Minimum	79						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Maximum	93						
Mean of Raw Data	87.04						
Standard Deviation of Raw Data	2.985						
Khat	878.3						
Theta hat	0.0991						
Kstar	768.5						
Theta star	0.113						
Mean of Log Transformed Data	4.466						
Standard Deviation of Log Transformed Data	0.0346						
Normal GOF Test Results							
Correlation Coefficient R	0.974						
Shapiro Wilk Test Statistic	0.961						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.478						
Lilliefors Test Statistic	0.112						
Lilliefors Critical (0.05) Value	0.177						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.975						
A-D Test Statistic	0.35						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.108						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.971						
Shapiro Wilk Test Statistic	0.955						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.365						
Lilliefors Test Statistic	0.114						
Lilliefors Critical (0.05) Value	0.177						
Data appear Lognormal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Calcium (m-60)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	4						
Number of Distinct Observations	12						
Minimum	80						
Maximum	92						
Mean of Raw Data	86.71						
Standard Deviation of Raw Data	2.985						
Khat	874.3						
Theta hat	0.0992						
Kstar	765.1						
Theta star	0.113						
Mean of Log Transformed Data	4.462						
Standard Deviation of Log Transformed Data	0.0346						
Normal GOF Test Results							
Correlation Coefficient R	0.99						
Shapiro Wilk Test Statistic	0.977						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.836						
Lilliefors Test Statistic	0.126						
Lilliefors Critical (0.05) Value	0.177						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.988						
A-D Test Statistic	0.27						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.132						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.988						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Shapiro Wilk Test Statistic	0.975						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.779						
Lilliefors Test Statistic	0.13						
Lilliefors Critical (0.05) Value	0.177						
Data appear Lognormal at (0.05) Significance Level							
Calcium (m-61)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	3						
Number of Distinct Observations	9						
Minimum	86						
Maximum	94						
Mean of Raw Data	89.75						
Standard Deviation of Raw Data	2.27						
Khat	1632						
Theta hat	0.055						
Kstar	1428						
Theta star	0.0629						
Mean of Log Transformed Data	4.497						
Standard Deviation of Log Transformed Data	0.0253						
Normal GOF Test Results							
Correlation Coefficient R	0.984						
Shapiro Wilk Test Statistic	0.957						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.397						
Lilliefors Test Statistic	0.155						
Lilliefors Critical (0.05) Value	0.177						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.983						
A-D Test Statistic	0.426						
A-D Critical (0.05) Value	0.742						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
K-S Test Statistic	0.159						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.984						
Shapiro Wilk Test Statistic	0.957						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.393						
Lilliefors Test Statistic	0.153						
Lilliefors Critical (0.05) Value	0.177						
Data appear Lognormal at (0.05) Significance Level							
Chloride (m-59)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	2						
Number of Distinct Observations	3						
Minimum	1200						
Maximum	1400						
Mean of Raw Data	1317						
Standard Deviation of Raw Data	81.65						
Khat	267.3						
Theta hat	4.925						
Kstar	234						
Theta star	5.628						
Mean of Log Transformed Data	7.181						
Standard Deviation of Log Transformed Data	0.0627						
Normal GOF Test Results							
Correlation Coefficient R	0.901						
Shapiro Wilk Test Statistic	0.788						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	1.0311E-4						
Lilliefors Test Statistic	0.263						
Lilliefors Critical (0.05) Value	0.177						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.893						
A-D Test Statistic	2.09						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.266						
K-S Critical(0.05) Value	0.177						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.9						
Shapiro Wilk Test Statistic	0.787						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	9.7449E-5						
Lilliefors Test Statistic	0.26						
Lilliefors Critical (0.05) Value	0.177						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Chloride (m-60)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	4						
Minimum	1200						
Maximum	1500						
Mean of Raw Data	1372						
Standard Deviation of Raw Data	67.82						
Khat	418.9						
Theta hat	3.275						
Kstar	368.6						
Theta star	3.722						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Mean of Log Transformed Data	7.223						
Standard Deviation of Log Transformed Data	0.0501						
Normal GOF Test Results							
Correlation Coefficient R	0.893						
Shapiro Wilk Test Statistic	0.808						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	1.9048E-4						
Lilliefors Test Statistic	0.34						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.892						
A-D Test Statistic	2.656						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.347						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.89						
Shapiro Wilk Test Statistic	0.804						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	1.5801E-4						
Lilliefors Test Statistic	0.345						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Chloride (m-61)							
Raw Statistics							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Number of Valid Observations	24						
Number of Missing Observations	3						
Number of Distinct Observations	6						
Minimum	1100						
Maximum	1700						
Mean of Raw Data	1375						
Standard Deviation of Raw Data	111.3						
Khat	159.4						
Theta hat	8.628						
Kstar	139.5						
Theta star	9.858						
Mean of Log Transformed Data	7.223						
Standard Deviation of Log Transformed Data	0.0811						
Normal GOF Test Results							
Correlation Coefficient R	0.903						
Shapiro Wilk Test Statistic	0.845						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.00132						
Lilliefors Test Statistic	0.286						
Lilliefors Critical (0.05) Value	0.177						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.908						
A-D Test Statistic	1.805						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.275						
K-S Critical(0.05) Value	0.177						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.906						
Shapiro Wilk Test Statistic	0.849						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.00159						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Lilliefors Test Statistic	0.272						
Lilliefors Critical (0.05) Value	0.177						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-59)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	2						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.8						
Mean of Raw Data	1.404						
Standard Deviation of Raw Data	0.0999						
Khat	228.5						
Theta hat	0.00615						
Kstar	199.9						
Theta star	0.00702						
Mean of Log Transformed Data	0.337						
Standard Deviation of Log Transformed Data	0.066						
Normal GOF Test Results							
Correlation Coefficient R	0.77						
Shapiro Wilk Test Statistic	0.62						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	1.8071E-7						
Lilliefors Test Statistic	0.392						
Lilliefors Critical (0.05) Value	0.177						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.784						
A-D Test Statistic	3.258						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.384						
K-S Critical(0.05) Value	0.177						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.794						
Shapiro Wilk Test Statistic	0.656						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	6.3427E-7						
Lilliefors Test Statistic	0.38						
Lilliefors Critical (0.05) Value	0.177						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-60)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.7						
Mean of Raw Data	1.452						
Standard Deviation of Raw Data	0.077						
Khat	381.6						
Theta hat	0.00381						
Kstar	335.8						
Theta star	0.00432						
Mean of Log Transformed Data	0.372						
Standard Deviation of Log Transformed Data	0.0519						
Normal GOF Test Results							
Correlation Coefficient R	0.867						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Shapiro Wilk Test Statistic	0.778						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	5.0602E-5						
Lilliefors Test Statistic	0.27						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.874						
A-D Test Statistic	2.404						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.275						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.875						
Shapiro Wilk Test Statistic	0.792						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	9.1656E-5						
Lilliefors Test Statistic	0.271						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-61)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.6						
Mean of Raw Data	1.432						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Standard Deviation of Raw Data	0.0748						
Khat	380.7						
Theta hat	0.00376						
Kstar	335						
Theta star	0.00427						
Mean of Log Transformed Data	0.358						
Standard Deviation of Log Transformed Data	0.0524						
Normal GOF Test Results							
Correlation Coefficient R	0.922						
Shapiro Wilk Test Statistic	0.852						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.00155						
Lilliefors Test Statistic	0.266						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.923						
A-D Test Statistic	1.924						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.264						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.922						
Shapiro Wilk Test Statistic	0.851						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.00146						
Lilliefors Test Statistic	0.258						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24				
Data do not follow a discernible distribution at (0.05) Level of Significance					
pH (m-59)					
Raw Statistics					
Number of Valid Observations	24				
Number of Missing Observations	2				
Number of Distinct Observations	8				
Minimum	7.5				
Maximum	8.1				
Mean of Raw Data	7.683				
Standard Deviation of Raw Data	0.149				
Khat	2815				
Theta hat	0.00273				
Kstar	2464				
Theta star	0.00312				
Mean of Log Transformed Data	2.039				
Standard Deviation of Log Transformed Data	0.0192				
Normal GOF Test Results					
Correlation Coefficient R	0.949				
Shapiro Wilk Test Statistic	0.902				
Shapiro Wilk Critical (0.05) Value	0.916				
Approximate Shapiro Wilk P Value	0.0226				
Lilliefors Test Statistic	0.212				
Lilliefors Critical (0.05) Value	0.177				
Data not Normal at (0.05) Significance Level					
Gamma GOF Test Results					
Correlation Coefficient R	0.951				
A-D Test Statistic	0.839				
A-D Critical (0.05) Value	0.742				
K-S Test Statistic	0.223				
K-S Critical(0.05) Value	0.177				
Data not Gamma Distributed at (0.05) Significance Level					
Lognormal GOF Test Results					

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Correlation Coefficient R	0.952						
Shapiro Wilk Test Statistic	0.906						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.0285						
Lilliefors Test Statistic	0.212						
Lilliefors Critical (0.05) Value	0.177						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
pH (m-60)							
Raw Statistics							
Number of Valid Observations	23						
Number of Missing Observations	5						
Number of Distinct Observations	7						
Minimum	7.5						
Maximum	8						
Mean of Raw Data	7.678						
Standard Deviation of Raw Data	0.131						
Khat	3629						
Theta hat	0.00212						
Kstar	3156						
Theta star	0.00243						
Mean of Log Transformed Data	2.038						
Standard Deviation of Log Transformed Data	0.017						
Normal GOF Test Results							
Correlation Coefficient R	0.963						
Shapiro Wilk Test Statistic	0.924						
Shapiro Wilk Critical (0.05) Value	0.914						
Approximate Shapiro Wilk P Value	0.0805						
Lilliefors Test Statistic	0.159						
Lilliefors Critical (0.05) Value	0.18						
Data appear Normal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Gamma GOF Test Results							
Correlation Coefficient R	0.963						
A-D Test Statistic	0.708						
A-D Critical (0.05) Value	0.74						
K-S Test Statistic	0.174						
K-S Critical(0.05) Value	0.181						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.964						
Shapiro Wilk Test Statistic	0.925						
Shapiro Wilk Critical (0.05) Value	0.914						
Approximate Shapiro Wilk P Value	0.0863						
Lilliefors Test Statistic	0.158						
Lilliefors Critical (0.05) Value	0.18						
Data appear Lognormal at (0.05) Significance Level							
pH (m-61)							
Raw Statistics							
Number of Valid Observations	23						
Number of Missing Observations	4						
Number of Distinct Observations	8						
Minimum	7.22						
Maximum	8						
Mean of Raw Data	7.661						
Standard Deviation of Raw Data	0.165						
Khat	2243						
Theta hat	0.00342						
Kstar	1951						
Theta star	0.00393						
Mean of Log Transformed Data	2.036						
Standard Deviation of Log Transformed Data	0.0216						
Normal GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Correlation Coefficient R	0.965						
Shapiro Wilk Test Statistic	0.946						
Shapiro Wilk Critical (0.05) Value	0.914						
Approximate Shapiro Wilk P Value	0.248						
Lilliefors Test Statistic	0.123						
Lilliefors Critical (0.05) Value	0.18						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.967						
A-D Test Statistic	0.535						
A-D Critical (0.05) Value	0.74						
K-S Test Statistic	0.13						
K-S Critical(0.05) Value	0.181						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.963						
Shapiro Wilk Test Statistic	0.943						
Shapiro Wilk Critical (0.05) Value	0.914						
Approximate Shapiro Wilk P Value	0.207						
Lilliefors Test Statistic	0.122						
Lilliefors Critical (0.05) Value	0.18						
Data appear Lognormal at (0.05) Significance Level							
Sulfate (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	1						
Number of Distinct Observations	6						
Minimum	330						
Maximum	400						
Mean of Raw Data	350.4						
Standard Deviation of Raw Data	13.99						
Khat	680.4						
Theta hat	0.515						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Kstar	598.8						
Theta star	0.585						
Mean of Log Transformed Data	5.858						
Standard Deviation of Log Transformed Data	0.0388						
Normal GOF Test Results							
Correlation Coefficient R	0.89						
Shapiro Wilk Test Statistic	0.815						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	2.5836E-4						
Lilliefors Test Statistic	0.271						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.898						
A-D Test Statistic	1.441						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.267						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.902						
Shapiro Wilk Test Statistic	0.835						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	6.6045E-4						
Lilliefors Test Statistic	0.264						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Sulfate (m-60)							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	2						
Number of Distinct Observations	8						
Minimum	340						
Maximum	450						
Mean of Raw Data	363.5						
Standard Deviation of Raw Data	27.27						
Khat	203.5						
Theta hat	1.786						
Kstar	180						
Theta star	2.019						
Mean of Log Transformed Data	5.893						
Standard Deviation of Log Transformed Data	0.0699						
Normal GOF Test Results							
Correlation Coefficient R	0.817						
Shapiro Wilk Test Statistic	0.677						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	5.8211E-7						
Lilliefors Test Statistic	0.32						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.834						
A-D Test Statistic	2.979						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.314						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.835						
Shapiro Wilk Test Statistic	0.705						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	1.7270E-6						
Lilliefors Test Statistic	0.31						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Sulfate (m-61)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	8						
Minimum	340						
Maximum	420						
Mean of Raw Data	361.6						
Standard Deviation of Raw Data	19.3						
Khat	382.4						
Theta hat	0.946						
Kstar	336.5						
Theta star	1.075						
Mean of Log Transformed Data	5.889						
Standard Deviation of Log Transformed Data	0.0517						
Normal GOF Test Results							
Correlation Coefficient R	0.919						
Shapiro Wilk Test Statistic	0.849						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.0013						
Lilliefors Test Statistic	0.253						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Correlation Coefficient R	0.927						
A-D Test Statistic	1.199						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.248						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.929						
Shapiro Wilk Test Statistic	0.866						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.00307						
Lilliefors Test Statistic	0.244						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
TDS (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	1						
Number of Distinct Observations	6						
Minimum	2300						
Maximum	2900						
Mean of Raw Data	2708						
Standard Deviation of Raw Data	128.8						
Khat	439.1						
Theta hat	6.167						
Kstar	386.4						
Theta star	7.008						
Mean of Log Transformed Data	7.903						
Standard Deviation of Log Transformed Data	0.0493						
Normal GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Correlation Coefficient R	0.901						
Shapiro Wilk Test Statistic	0.827						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	4.6268E-4						
Lilliefors Test Statistic	0.315						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.898						
A-D Test Statistic	1.859						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.322						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.889						
Shapiro Wilk Test Statistic	0.808						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	1.8562E-4						
Lilliefors Test Statistic	0.325						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
TDS (m-60)							
Raw Statistics							
Number of Valid Observations	27						
Number of Missing Observations	1						
Number of Distinct Observations	9						
Minimum	2200						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24						
Maximum	4200						
Mean of Raw Data	2867						
Standard Deviation of Raw Data	364.8						
Khat	74.08						
Theta hat	38.7						
Kstar	65.88						
Theta star	43.52						
Mean of Log Transformed Data	7.954						
Standard Deviation of Log Transformed Data	0.115						
Normal GOF Test Results							
Correlation Coefficient R	0.792						
Shapiro Wilk Test Statistic	0.661						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	2.0479E-7						
Lilliefors Test Statistic	0.352						
Lilliefors Critical (0.05) Value	0.167						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.813						
A-D Test Statistic	3.465						
A-D Critical (0.05) Value	0.744						
K-S Test Statistic	0.334						
K-S Critical(0.05) Value	0.168						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.828						
Shapiro Wilk Test Statistic	0.72						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	2.1150E-6						
Lilliefors Test Statistic	0.325						
Lilliefors Critical (0.05) Value	0.167						
Data not Lognormal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	24				
Non-parametric GOF Test Results					
Data do not follow a discernible distribution at (0.05) Level of Significance					
TDS (m-61)					
Raw Statistics					
Number of Valid Observations	26				
Number of Missing Observations	1				
Number of Distinct Observations	8				
Minimum	2300				
Maximum	3800				
Mean of Raw Data	2850				
Standard Deviation of Raw Data	253.4				
Khat	142.2				
Theta hat	20.04				
Kstar	125.9				
Theta star	22.64				
Mean of Log Transformed Data	7.952				
Standard Deviation of Log Transformed Data	0.0842				
Normal GOF Test Results					
Correlation Coefficient R	0.864				
Shapiro Wilk Test Statistic	0.786				
Shapiro Wilk Critical (0.05) Value	0.92				
Approximate Shapiro Wilk P Value	5.2631E-5				
Lilliefors Test Statistic	0.229				
Lilliefors Critical (0.05) Value	0.17				
Data not Normal at (0.05) Significance Level					
Gamma GOF Test Results					
Correlation Coefficient R	0.878				
A-D Test Statistic	1.707				
A-D Critical (0.05) Value	0.742				
K-S Test Statistic	0.214				
K-S Critical(0.05) Value	0.171				
Data not Gamma Distributed at (0.05) Significance Level					

Appendix B Outlier Statistics

User Selected Options		Outlier Tests for Selected Variables excluding nondetects					
Date/Time of Computation	ProUCL 5.13/28/2023 5:40:35 PM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Dixon's Outlier Test for Boron (m-59)							
Total N = 24							
Number NDs = 0							
Number Detects = 24							
10% critical value: 0.367							
5% critical value: 0.413							
1% critical value: 0.497							
Note: NDs excluded from Outlier Test							
1. Data Value 0.53 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.400							
For 10% significance level, 0.53 is an outlier.							
For 5% significance level, 0.53 is not an outlier.							
For 1% significance level, 0.53 is not an outlier.							
2. Data Value 0.48 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.000							
For 10% significance level, 0.48 is not an outlier.							
For 5% significance level, 0.48 is not an outlier.							
For 1% significance level, 0.48 is not an outlier.							
Dixon's Outlier Test for Boron (m-60)							
Total N = 24							
Number NDs = 0							
Number Detects = 24							
10% critical value: 0.367							

Appendix B Outlier Statistics

Number Detects = 24									
5% critical value: 0.413									
1% critical value: 0.497									
Note: NDs excluded from Outlier Test									
1. Data Value 0.54 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.167									
For 10% significance level, 0.54 is not an outlier.									
For 5% significance level, 0.54 is not an outlier.									
For 1% significance level, 0.54 is not an outlier.									
2. Data Value 0.48 is a Potential Outlier (Lower Tail)?									
Test Statistic: 0.000									
For 10% significance level, 0.48 is not an outlier.									
For 5% significance level, 0.48 is not an outlier.									
For 1% significance level, 0.48 is not an outlier.									
Dixon's Outlier Test for Boron (m-61)									
Total N = 24									
Number NDs = 0									
Number Detects = 24									
10% critical value: 0.367									
5% critical value: 0.413									
1% critical value: 0.497									
Note: NDs excluded from Outlier Test									
1. Data Value 0.52 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.250									
For 10% significance level, 0.52 is not an outlier.									
For 5% significance level, 0.52 is not an outlier.									
For 1% significance level, 0.52 is not an outlier.									

Appendix B Outlier Statistics

Number Detects = 24							
2. Data Value 0.48 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.000							
For 10% significance level, 0.48 is not an outlier.							
For 5% significance level, 0.48 is not an outlier.							
For 1% significance level, 0.48 is not an outlier.							
Dixon's Outlier Test for Calcium (m-59)							
Total N = 24							
Number NDs = 0							
Number Detects = 24							
10% critical value: 0.367							
5% critical value: 0.413							
1% critical value: 0.497							
Note: NDs excluded from Outlier Test							
1. Data Value 93 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.333							
For 10% significance level, 93 is not an outlier.							
For 5% significance level, 93 is not an outlier.							
For 1% significance level, 93 is not an outlier.							
2. Data Value 79 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.455							
For 10% significance level, 79 is an outlier.							
For 5% significance level, 79 is an outlier.							
For 1% significance level, 79 is not an outlier.							
Dixon's Outlier Test for Calcium (m-60)							
Total N = 24							

Appendix B Outlier Statistics

Number Detects = 24									
Number NDs = 0									
Number Detects = 24									
10% critical value: 0.367									
5% critical value: 0.413									
1% critical value: 0.497									
Note: NDs excluded from Outlier Test									
1. Data Value 92 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.222									
For 10% significance level, 92 is not an outlier.									
For 5% significance level, 92 is not an outlier.									
For 1% significance level, 92 is not an outlier.									
2. Data Value 80 is a Potential Outlier (Lower Tail)?									
Test Statistic: 0.300									
For 10% significance level, 80 is not an outlier.									
For 5% significance level, 80 is not an outlier.									
For 1% significance level, 80 is not an outlier.									
Dixon's Outlier Test for Calcium (m-61)									
Total N = 24									
Number NDs = 0									
Number Detects = 24									
10% critical value: 0.367									
5% critical value: 0.413									
1% critical value: 0.497									
Note: NDs excluded from Outlier Test									
1. Data Value 94 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.143									
For 10% significance level, 94 is not an outlier.									

Appendix B Outlier Statistics

Number Detects = 24									
For 5% significance level, 94 is not an outlier.									
For 1% significance level, 94 is not an outlier.									
2. Data Value 86 is a Potential Outlier (Lower Tail)?									
Test Statistic: 0.143									
For 10% significance level, 86 is not an outlier.									
For 5% significance level, 86 is not an outlier.									
For 1% significance level, 86 is not an outlier.									
Dixon's Outlier Test for Chloride (m-59)									
Total N = 24									
Number NDs = 0									
Number Detects = 24									
10% critical value: 0.367									
5% critical value: 0.413									
1% critical value: 0.497									
Note: NDs excluded from Outlier Test									
1. Data Value 1400 is a Potential Outlier (Upper Tail)?									
Test Statistic: 0.000									
For 10% significance level, 1400 is not an outlier.									
For 5% significance level, 1400 is not an outlier.									
For 1% significance level, 1400 is not an outlier.									
2. Data Value 1200 is a Potential Outlier (Lower Tail)?									
Test Statistic: 0.000									
For 10% significance level, 1200 is not an outlier.									
For 5% significance level, 1200 is not an outlier.									
For 1% significance level, 1200 is not an outlier.									

Appendix B Outlier Statistics

Number Detects = 24								
Rosner's Outlier Test for 1 Outliers in Chloride (m-60)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		1372						
SD of Detects		67.82						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1372	66.45	1200	19	2.588	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Dixon's Outlier Test for Chloride (m-61)								
Total N = 24								
Number NDs = 0								
Number Detects = 24								
10% critical value: 0.367								
5% critical value: 0.413								
1% critical value: 0.497								
Note: NDs excluded from Outlier Test								
1. Data Value 1700 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.500								
For 10% significance level, 1700 is an outlier.								
For 5% significance level, 1700 is an outlier.								
For 1% significance level, 1700 is an outlier.								

Appendix B Outlier Statistics

Number Detects = 24							
2. Data Value 1100 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.500							
For 10% significance level, 1100 is an outlier.							
For 5% significance level, 1100 is an outlier.							
For 1% significance level, 1100 is an outlier.							
Dixon's Outlier Test for Fluoride (m-59)							
Total N = 24							
Number NDs = 0							
Number Detects = 24							
10% critical value: 0.367							
5% critical value: 0.413							
1% critical value: 0.497							
Note: NDs excluded from Outlier Test							
1. Data Value 1.8 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.600							
For 10% significance level, 1.8 is an outlier.							
For 5% significance level, 1.8 is an outlier.							
For 1% significance level, 1.8 is an outlier.							
2. Data Value 1.3 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.000							
For 10% significance level, 1.3 is not an outlier.							
For 5% significance level, 1.3 is not an outlier.							
For 1% significance level, 1.3 is not an outlier.							
Rosner's Outlier Test for 1 Outliers in Fluoride (m-60)							

Appendix B Outlier Statistics

Number Detects = 24								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		1.452						
SD of Detects		0.077						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.452	0.0755	1.7	19	3.286	2.82	3.14	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.7 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Fluoride (m-61)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		1.432						
SD of Detects		0.0748						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.432	0.0733	1.6	20	2.291	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								

Appendix B Outlier Statistics

Number Detects = 24							
Dixon's Outlier Test for pH (m-59)							
Total N = 24							
Number NDs = 0							
Number Detects = 24							
10% critical value: 0.367							
5% critical value: 0.413							
1% critical value: 0.497							
Note: NDs excluded from Outlier Test							
1. Data Value 8.1 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.333							
For 10% significance level, 8.1 is not an outlier.							
For 5% significance level, 8.1 is not an outlier.							

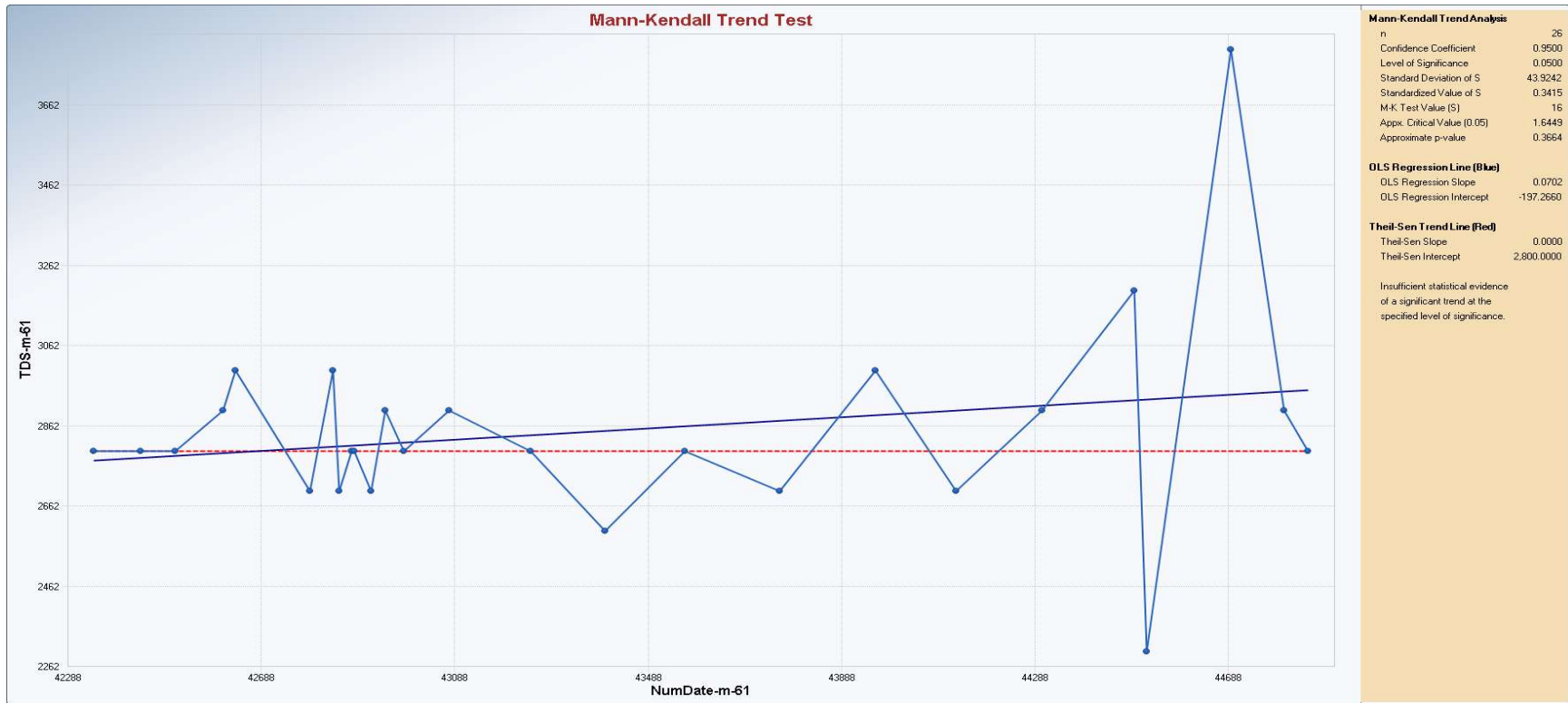
Appendix B Summary Statistics

General Statistics on Uncensored Data											
Date/Time of Computation		ProUCL 5.13/28/2023 5:38:27 PM									
User Selected Options											
From File		Cholla_BAM_ProUCL_Upload_20230328.xls									
Full Precision		OFF									
From File: Cholla_BAM_ProUCL_Upload_20230328.xls											
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (m-59)	24	2	24	0	0.00%	N/A	N/A	0.495	1.6504E-4	0.0128	0.026
Boron (m-60)	24	4	24	0	0.00%	N/A	N/A	0.506	3.0272E-4	0.0174	0.0344
Boron (m-61)	24	3	24	0	0.00%	N/A	N/A	0.496	1.4620E-4	0.0121	0.0244
Calcium (m-59)	24	2	24	0	0.00%	N/A	N/A	87.04	8.911	2.985	0.0343
Calcium (m-60)	24	4	24	0	0.00%	N/A	N/A	86.71	8.911	2.985	0.0344
Calcium (m-61)	24	3	24	0	0.00%	N/A	N/A	89.75	5.152	2.27	0.0253
Chloride (m-59)	24	2	24	0	0.00%	N/A	N/A	1317	6667	81.65	0.062
Chloride (m-60)	25	3	25	0	0.00%	N/A	N/A	1372	4600	67.82	0.0494
Chloride (m-61)	24	3	24	0	0.00%	N/A	N/A	1375	12391	111.3	0.081
Fluoride (m-59)	24	2	24	0	0.00%	N/A	N/A	1.404	0.00998	0.0999	0.0712
Fluoride (m-60)	25	3	25	0	0.00%	N/A	N/A	1.452	0.00593	0.077	0.053
Fluoride (m-61)	25	2	25	0	0.00%	N/A	N/A	1.432	0.0056	0.0748	0.0523
pH (m-59)	24	2	24	0	0.00%	N/A	N/A	7.683	0.0221	0.149	0.0194
pH (m-60)	23	5	23	0	0.00%	N/A	N/A	7.678	0.0171	0.131	0.017
pH (m-61)	23	4	23	0	0.00%	N/A	N/A	7.661	0.0272	0.165	0.0215
Sulfate (m-59)	25	1	25	0	0.00%	N/A	N/A	350.4	195.7	13.99	0.0399
Sulfate (m-60)	26	2	26	0	0.00%	N/A	N/A	363.5	743.5	27.27	0.075
Sulfate (m-61)	25	2	25	0	0.00%	N/A	N/A	361.6	372.3	19.3	0.0534
TDS (m-59)	25	1	25	0	0.00%	N/A	N/A	2708	16600	128.8	0.0476
TDS (m-60)	27	1	26	1	3.70%	2700	2700	2857	135046	367.5	0.129
TDS (m-61)	26	1	26	0	0.00%	N/A	N/A	2850	64200	253.4	0.0889
General Statistics for Raw Data Sets using Detected Data Only											
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (m-59)	24	2	0.48	0.53	0.495	0.49	1.6504E-4	0.0128	0.0148	1.04	0.026
Boron (m-60)	24	4	0.48	0.54	0.506	0.5	3.0272E-4	0.0174	0.0148	0.257	0.0344

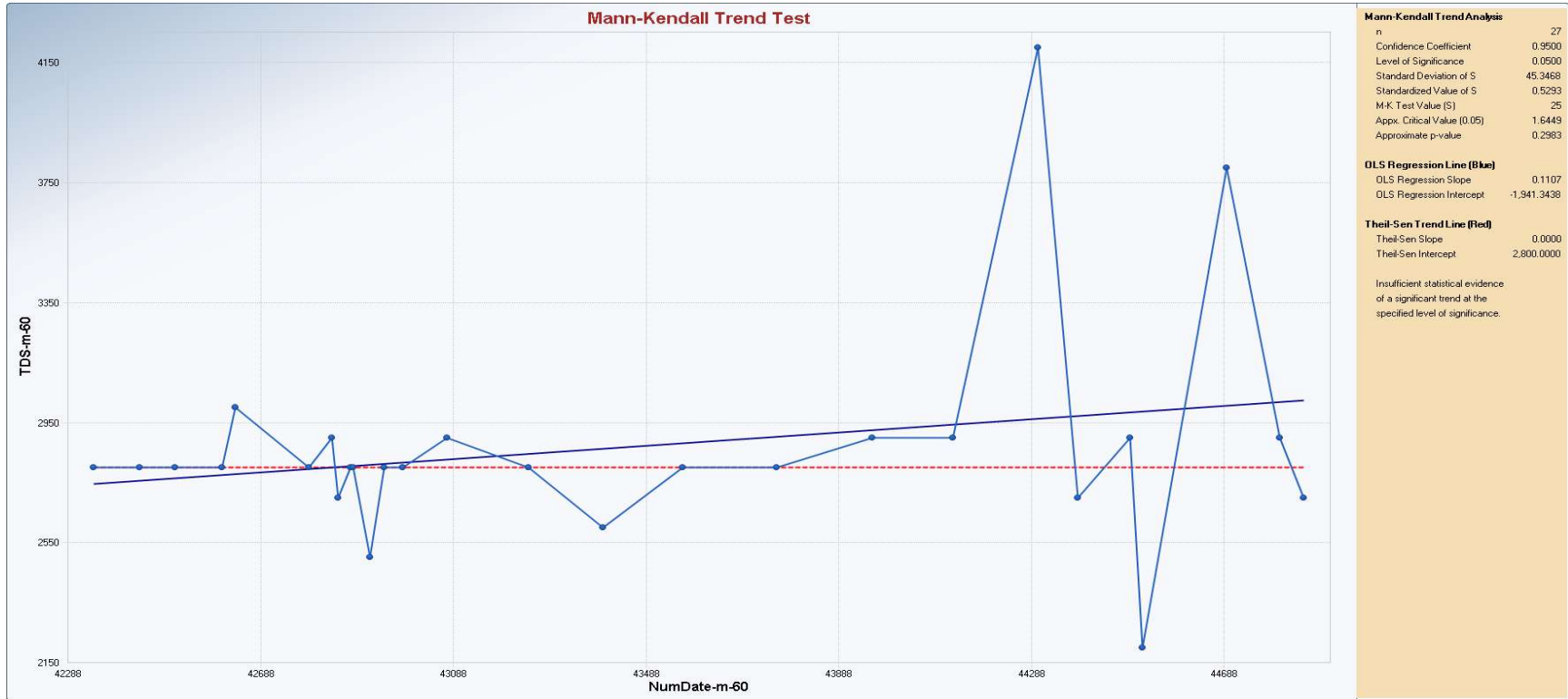
Appendix B Summary Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Boron (m-61)	24	3	0.48	0.52	0.496	0.5	1.4620E-4	0.0121	0.0148	0.325	0.0244
Calcium (m-59)	24	2	79	93	87.04	87	8.911	2.985	2.965	-0.386	0.0343
Calcium (m-60)	24	4	80	92	86.71	86.5	8.911	2.985	2.965	-0.269	0.0344
Calcium (m-61)	24	3	86	94	89.75	90	5.152	2.27	2.965	0.0456	0.0253
Chloride (m-59)	24	2	1200	1400	1317	1300	6667	81.65	148.3	-0.329	0.062
Chloride (m-60)	25	3	1200	1500	1372	1400	4600	67.82	0	-0.461	0.0494
Chloride (m-61)	24	3	1100	1700	1375	1400	12391	111.3	0	0.335	0.081
Fluoride (m-59)	24	2	1.3	1.8	1.404	1.4	0.00998	0.0999	0	2.765	0.0712
Fluoride (m-60)	25	3	1.3	1.7	1.452	1.4	0.00593	0.077	0.148	1.117	0.053
Fluoride (m-61)	25	2	1.3	1.6	1.432	1.4	0.0056	0.0748	0.148	0.0301	0.0523
pH (m-59)	24	2	7.5	8.1	7.683	7.65	0.0221	0.149	0.0964	1.029	0.0194
pH (m-60)	23	5	7.5	8	7.678	7.7	0.0171	0.131	0.148	0.44	0.017
pH (m-61)	23	4	7.22	8	7.661	7.7	0.0272	0.165	0.148	-0.424	0.0215
Sulfate (m-59)	25	1	330	400	350.4	350	195.7	13.99	14.83	1.81	0.0399
Sulfate (m-60)	26	2	340	450	363.5	355	743.5	27.27	7.413	2.323	0.075
Sulfate (m-61)	25	2	340	420	361.6	360	372.3	19.3	14.83	1.494	0.0534
TDS (m-59)	25	1	2300	2900	2708	2700	16600	128.8	148.3	-1.431	0.0476
TDS (m-60)	26	1	2200	4200	2873	2800	137246	370.5	148.3	2.337	0.129
TDS (m-61)	26	1	2300	3800	2850	2800	64200	253.4	148.3	1.894	0.0889
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (m-59)	24	2	0.48	0.48	0.488	0.49	0.5	0.5	0.507	0.519	0.528
Boron (m-60)	24	4	0.483	0.49	0.498	0.5	0.52	0.524	0.53	0.53	0.538
Boron (m-61)	24	3	0.48	0.486	0.49	0.5	0.5	0.504	0.51	0.519	0.52
Calcium (m-59)	24	2	84	85	85	87	89	89	90	91.7	92.77
Calcium (m-60)	24	4	83.3	84.6	85	86.5	89	89.4	90	90.85	91.77
Calcium (m-61)	24	3	87	88	88	90	91.25	92	92.7	93	93.77
Chloride (m-59)	24	2	1200	1200	1275	1300	1400	1400	1400	1400	1400
Chloride (m-60)	25	3	1300	1300	1300	1400	1400	1400	1400	1480	1500
Chloride (m-61)	24	3	1300	1300	1300	1400	1400	1400	1470	1500	1654
Fluoride (m-59)	24	2	1.3	1.36	1.4	1.4	1.4	1.4	1.47	1.5	1.731
Fluoride (m-60)	25	3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.652
Fluoride (m-61)	25	2	1.34	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.576
pH (m-59)	24	2	7.509	7.588	7.6	7.65	7.8	7.8	7.87	7.9	8.054
pH (m-60)	23	5	7.5	7.576	7.6	7.7	7.8	7.8	7.8	7.827	7.963

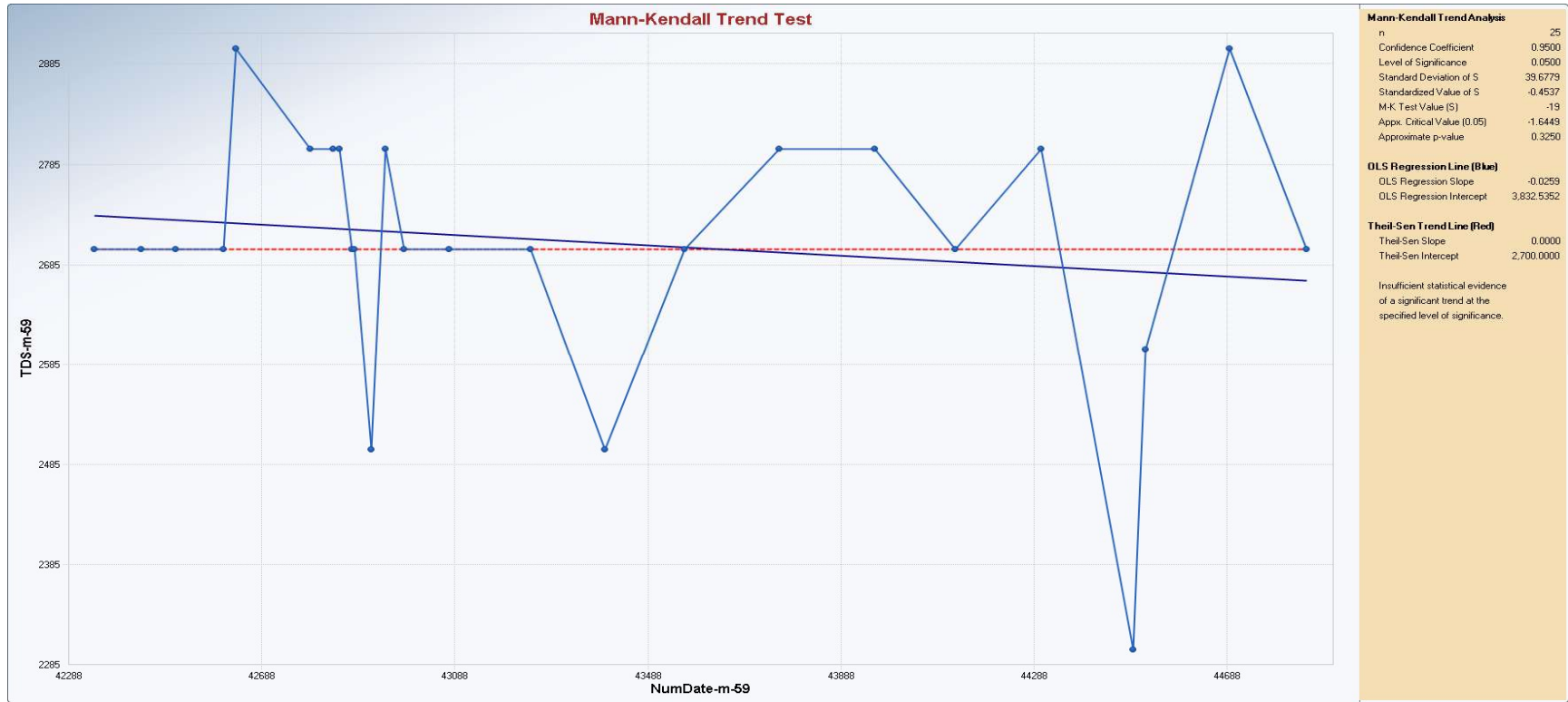
Appendix B Time Series Plots



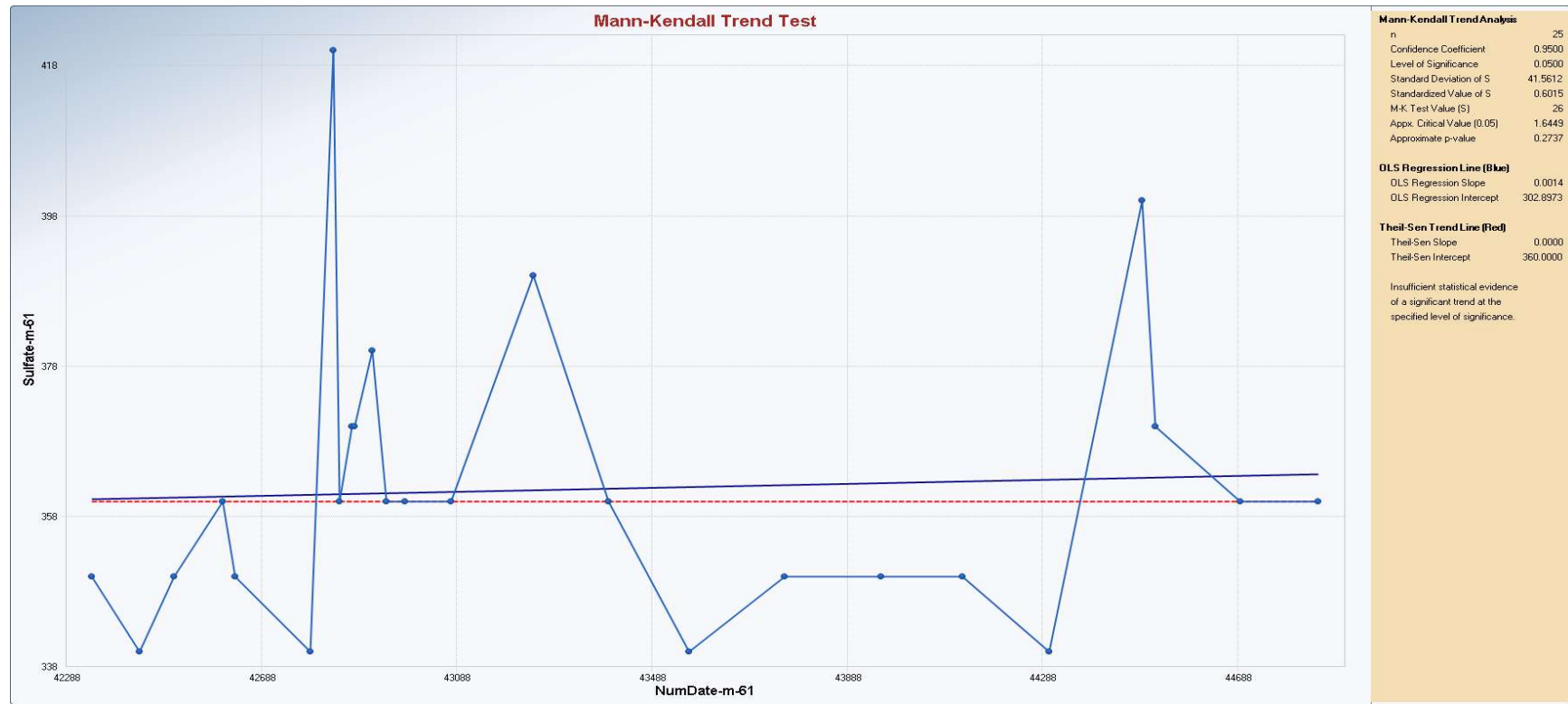
Appendix B Time Series Plots



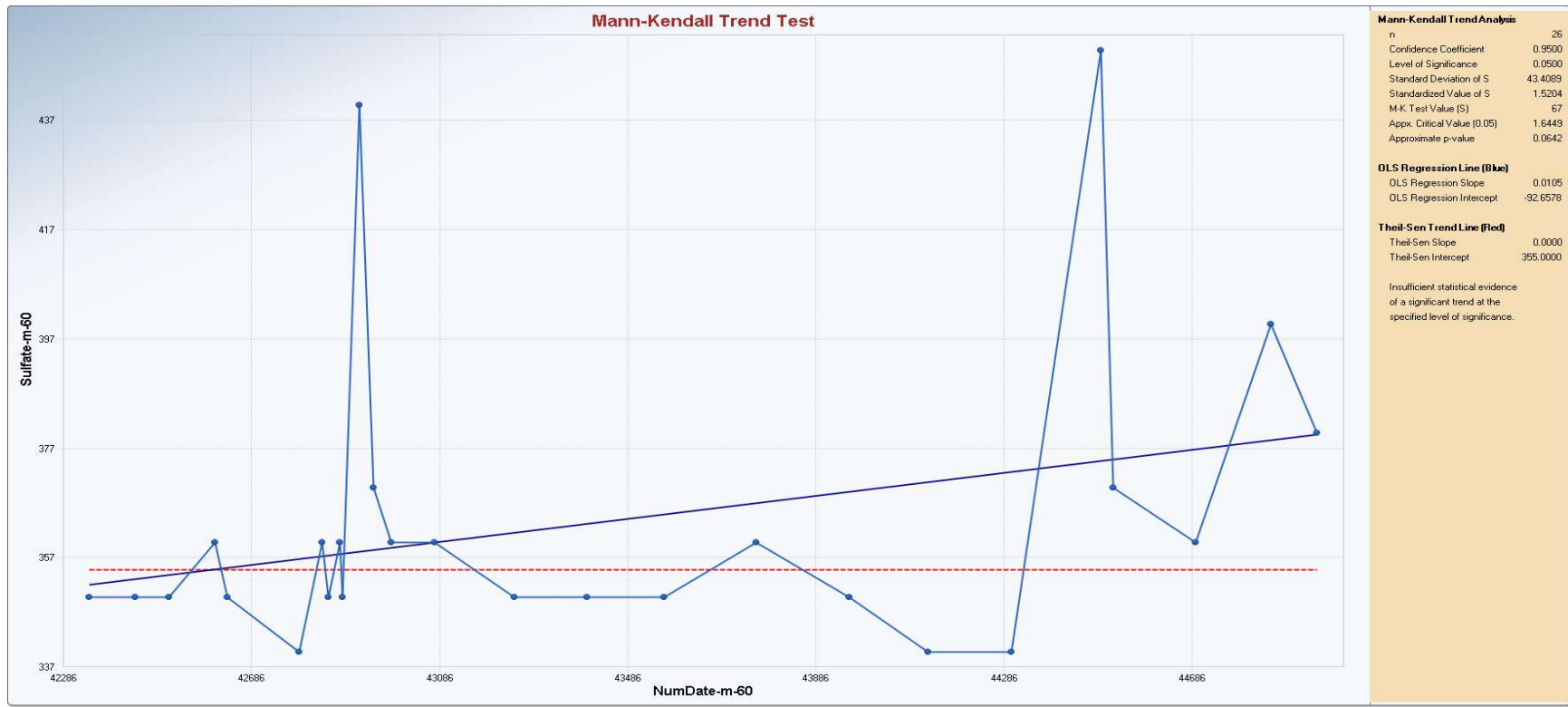
Appendix B Time Series Plots



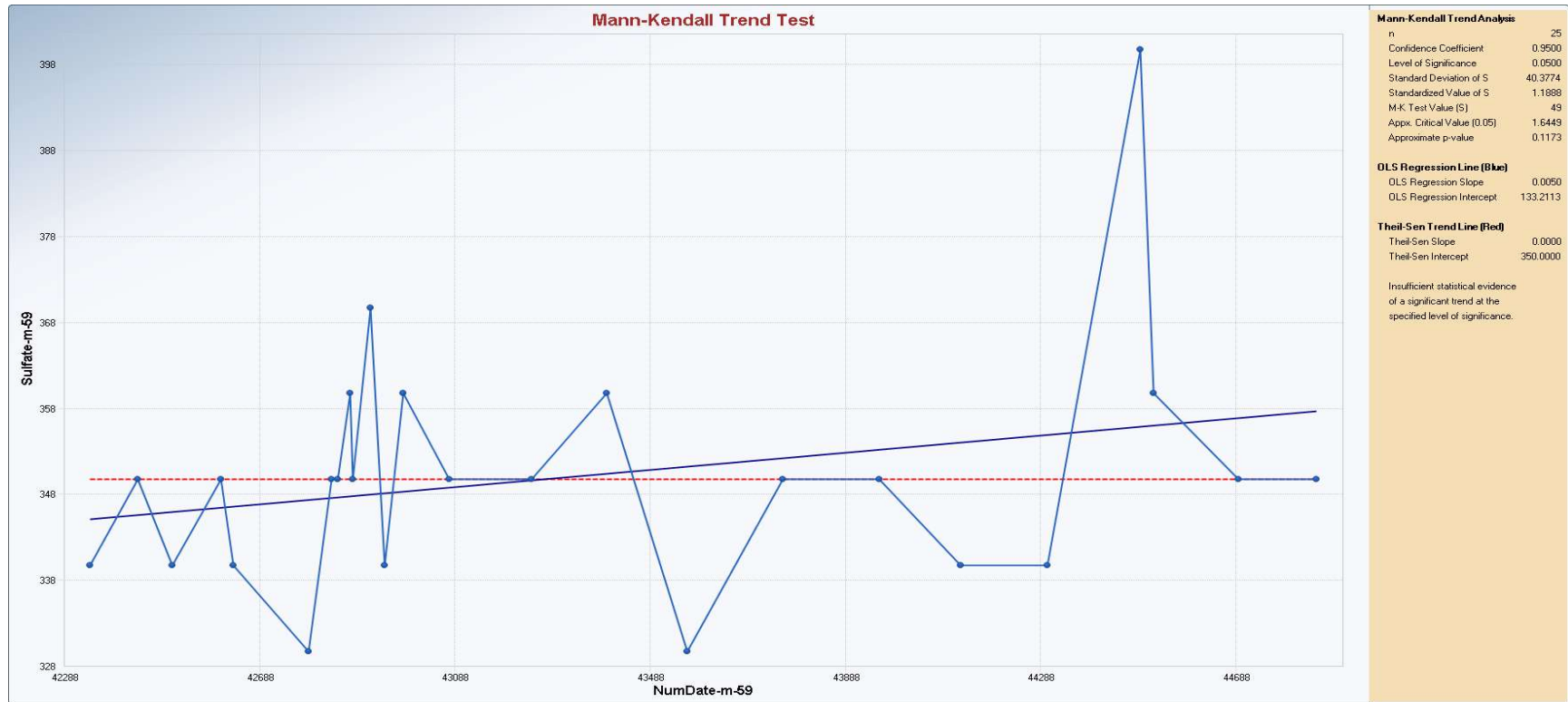
Appendix B Time Series Plots



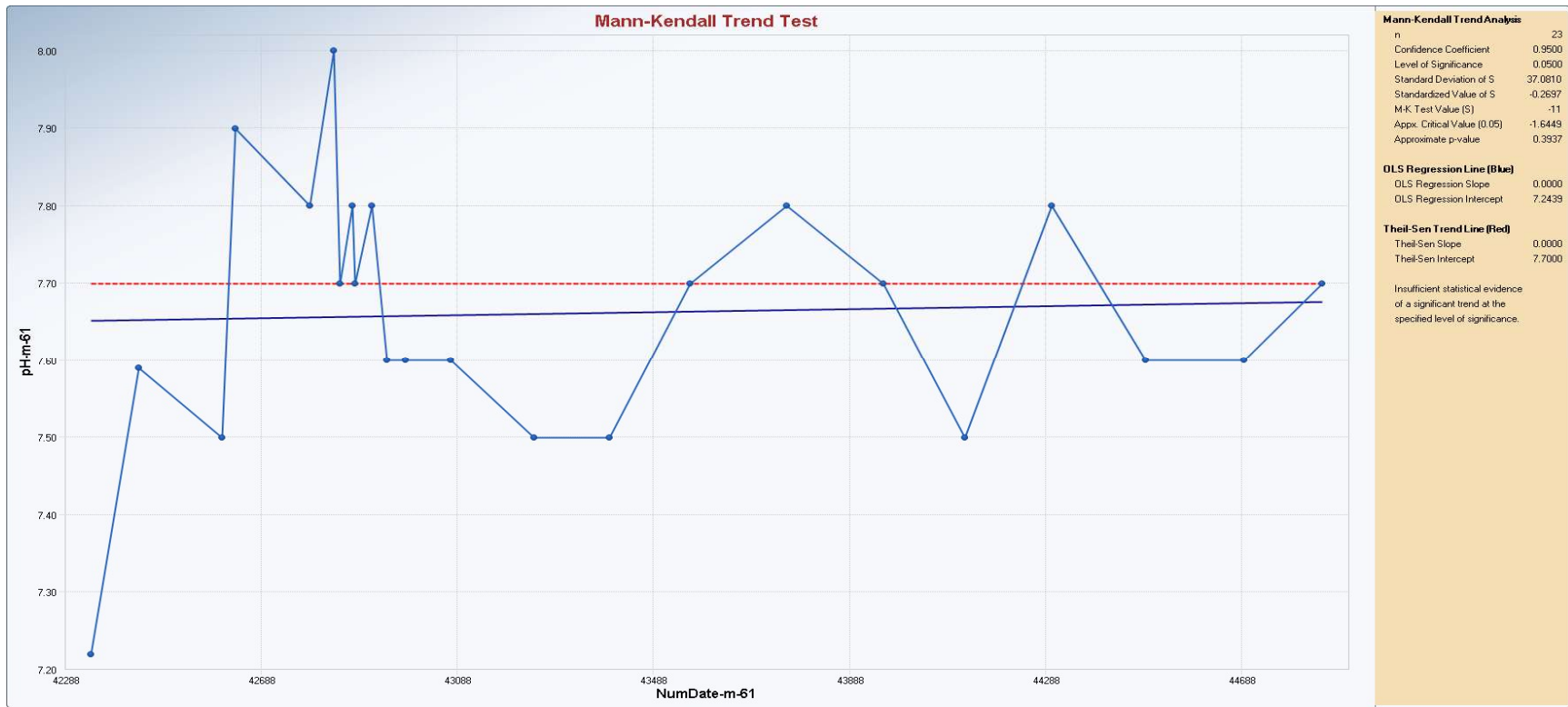
Appendix B Time Series Plots



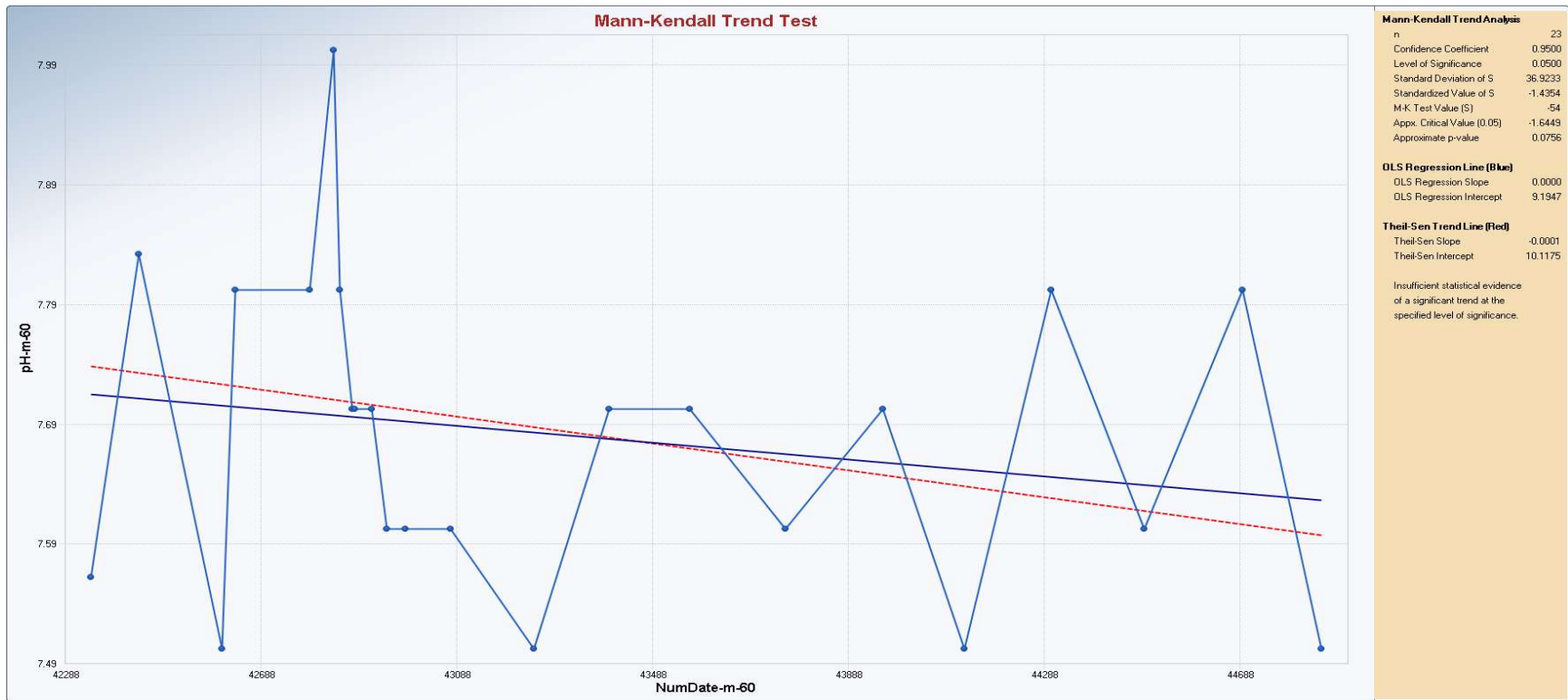
Appendix B Time Series Plots



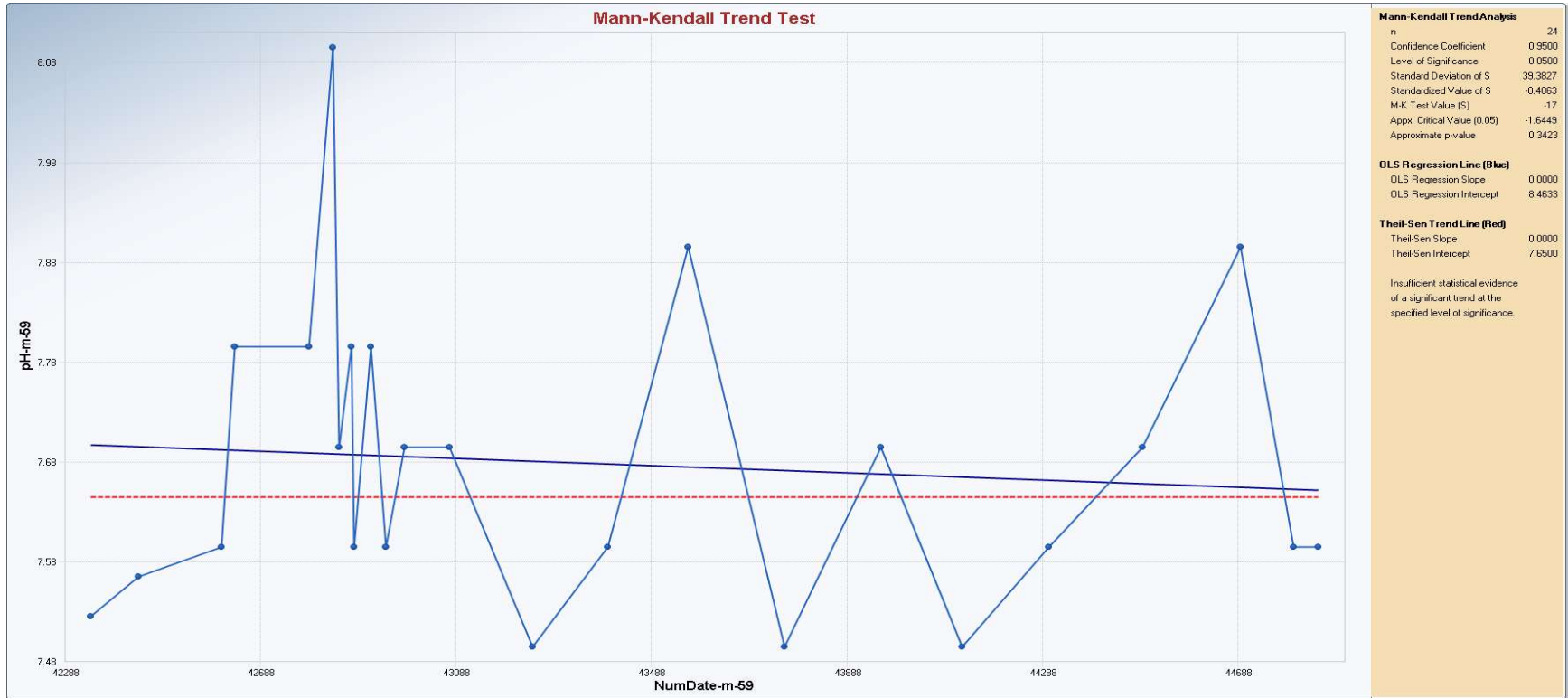
Appendix B Time Series Plots



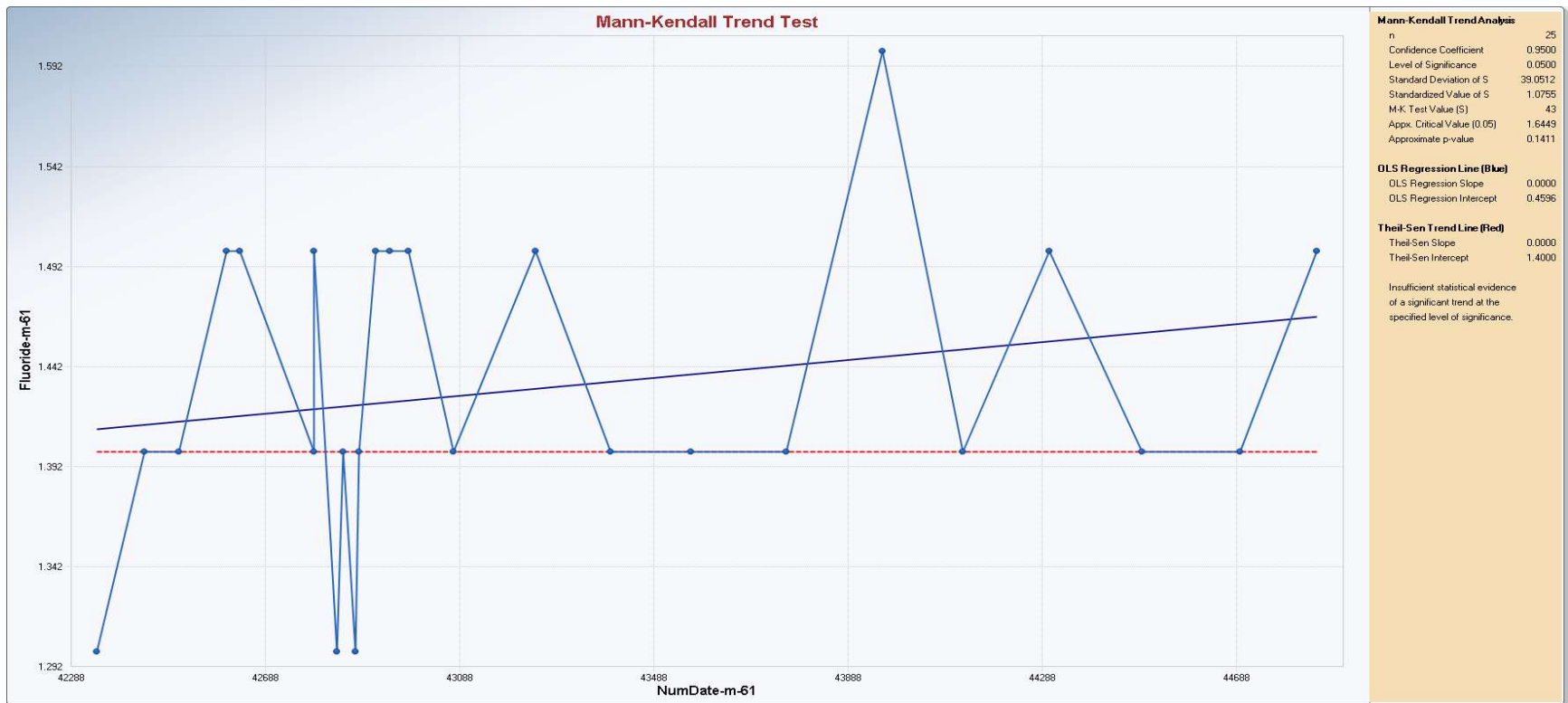
Appendix B Time Series Plots



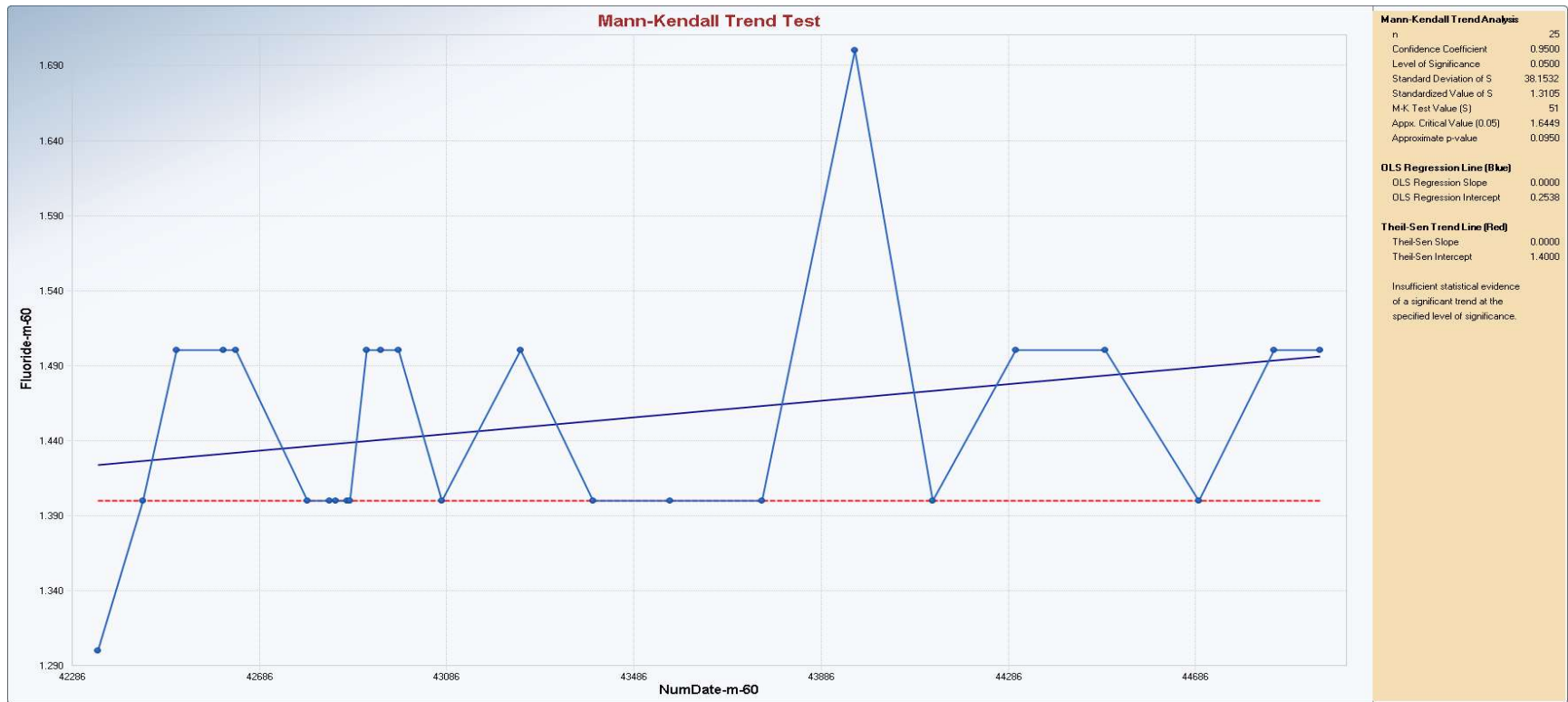
Appendix B Time Series Plots



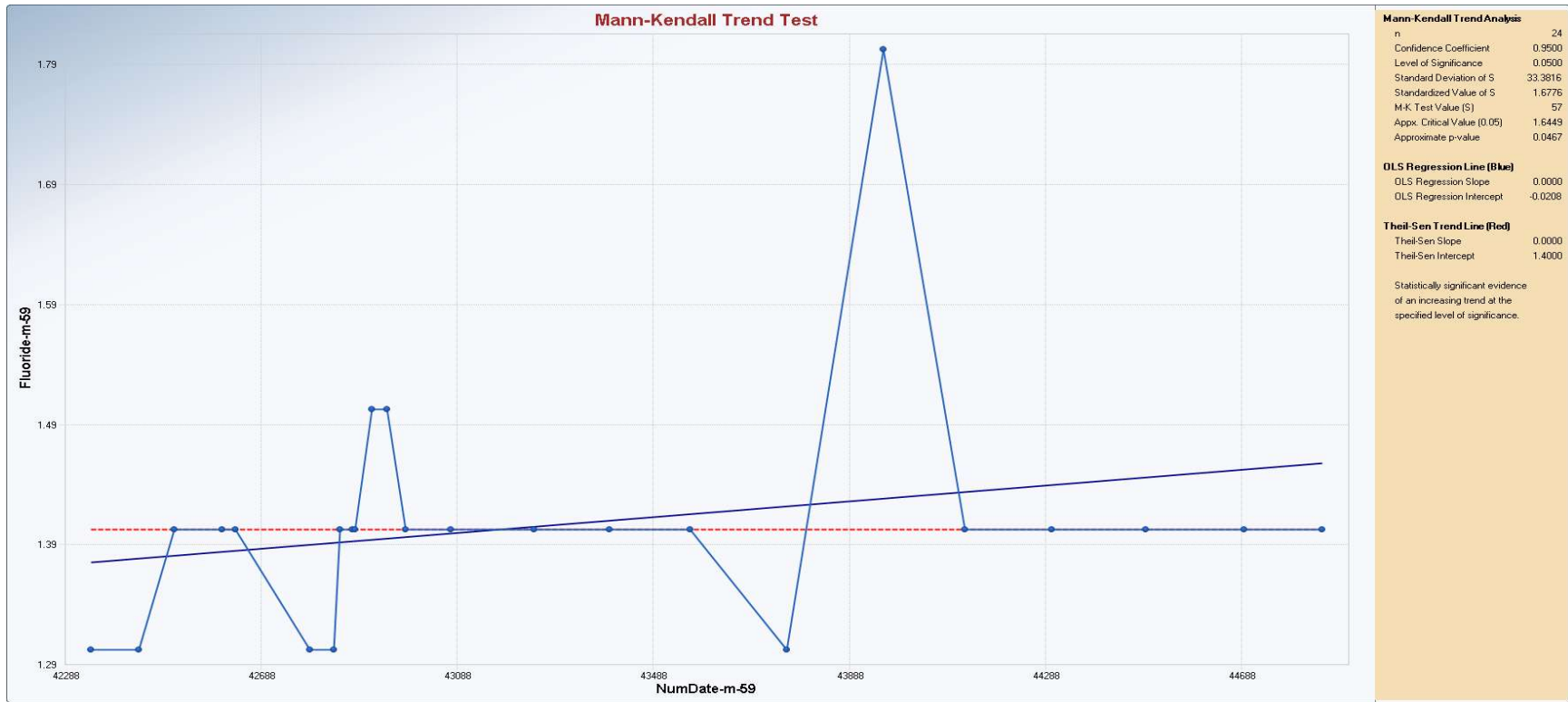
Appendix B Time Series Plots



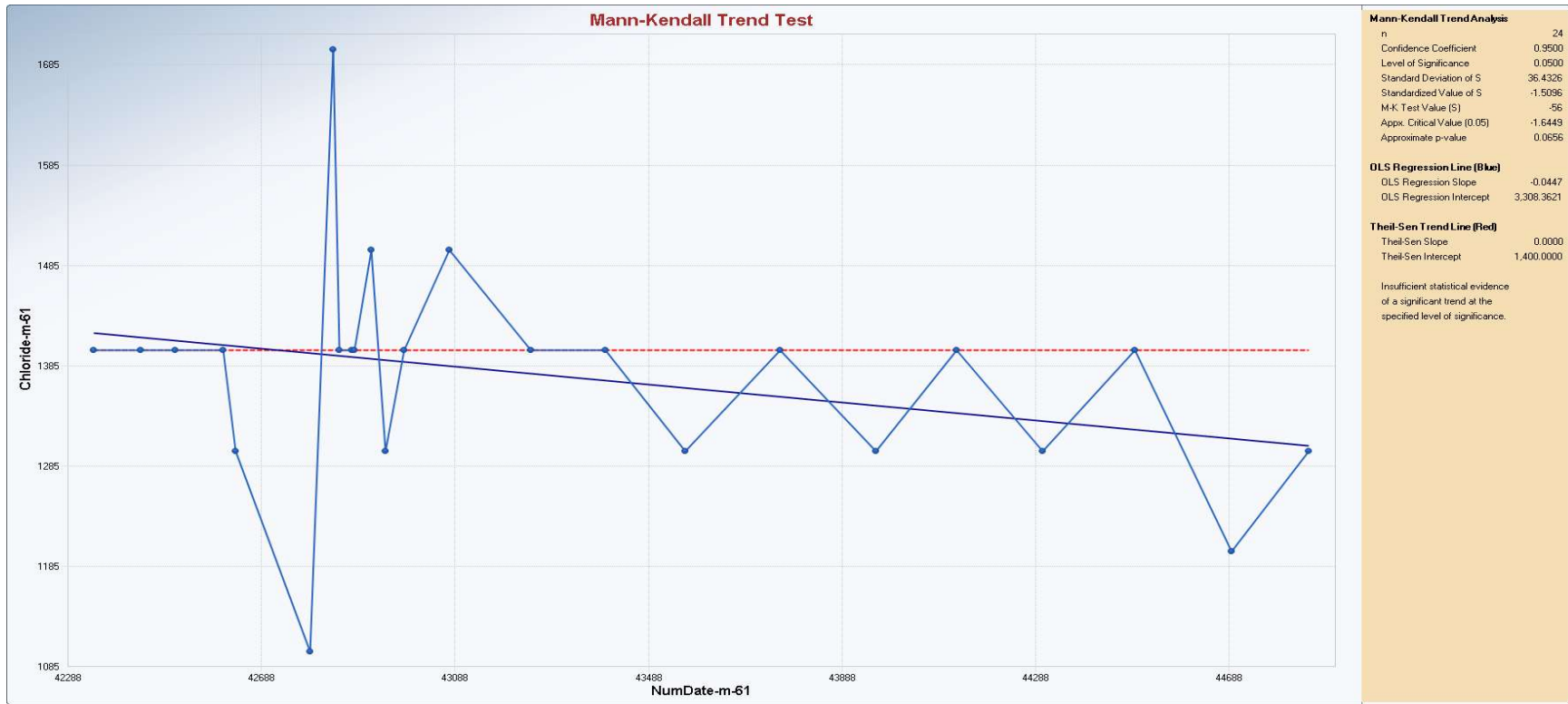
Appendix B Time Series Plots



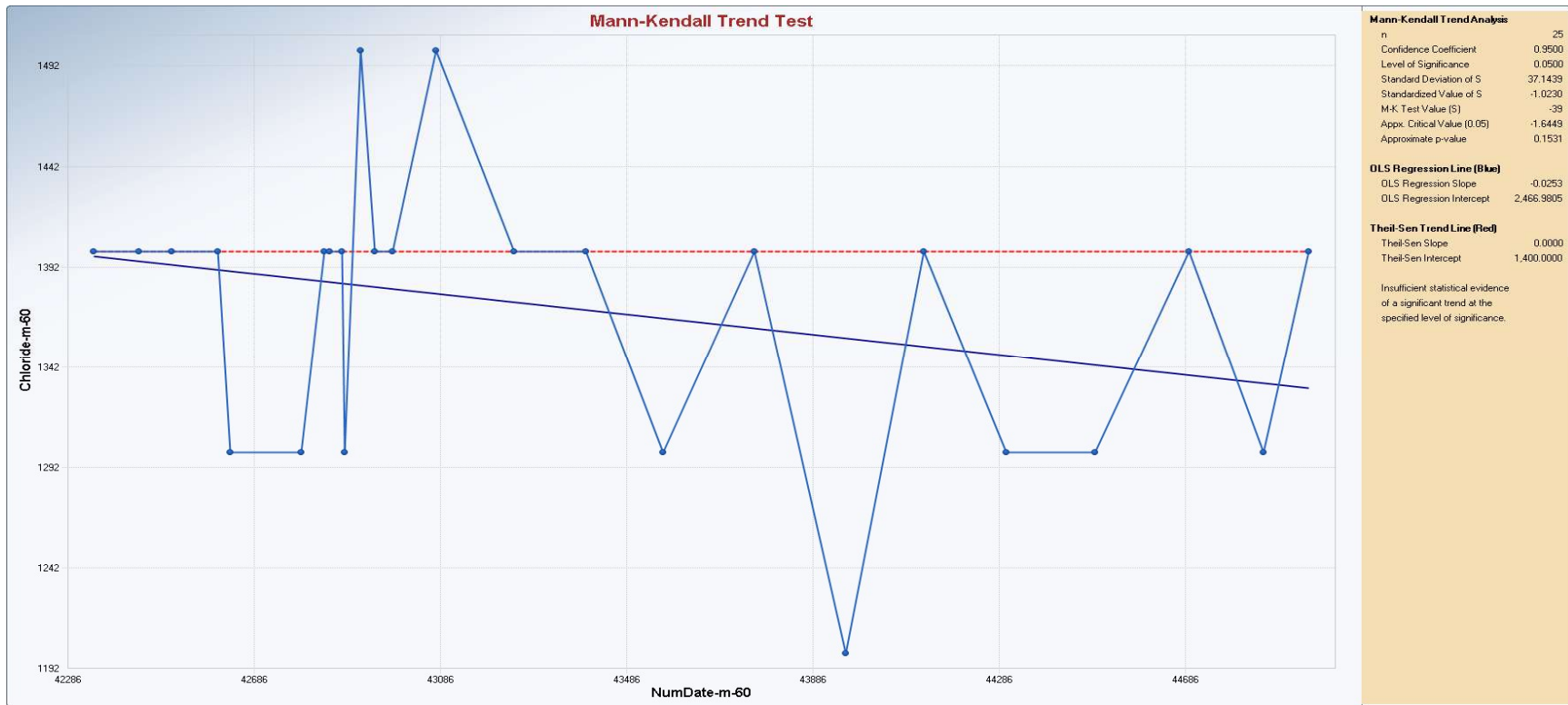
Appendix B Time Series Plots



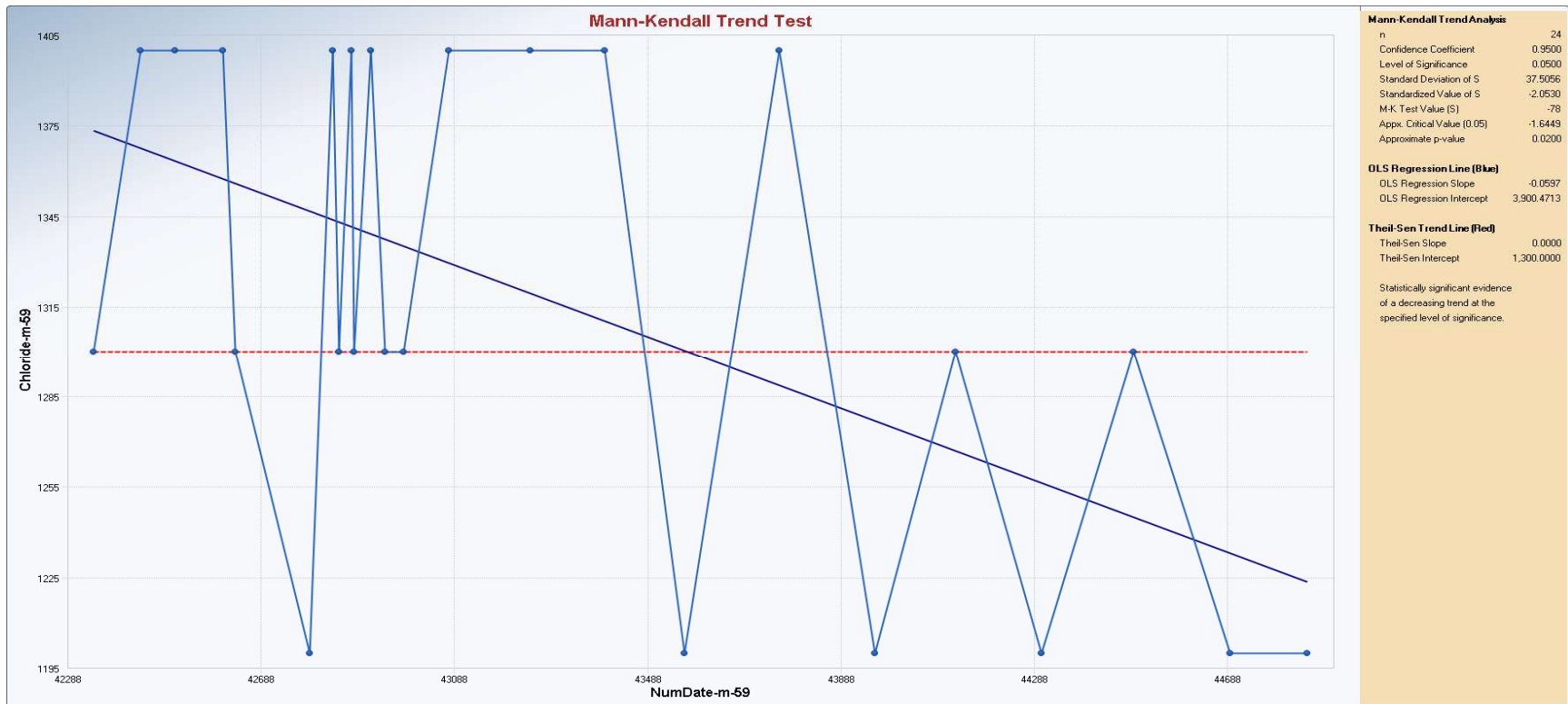
Appendix B Time Series Plots



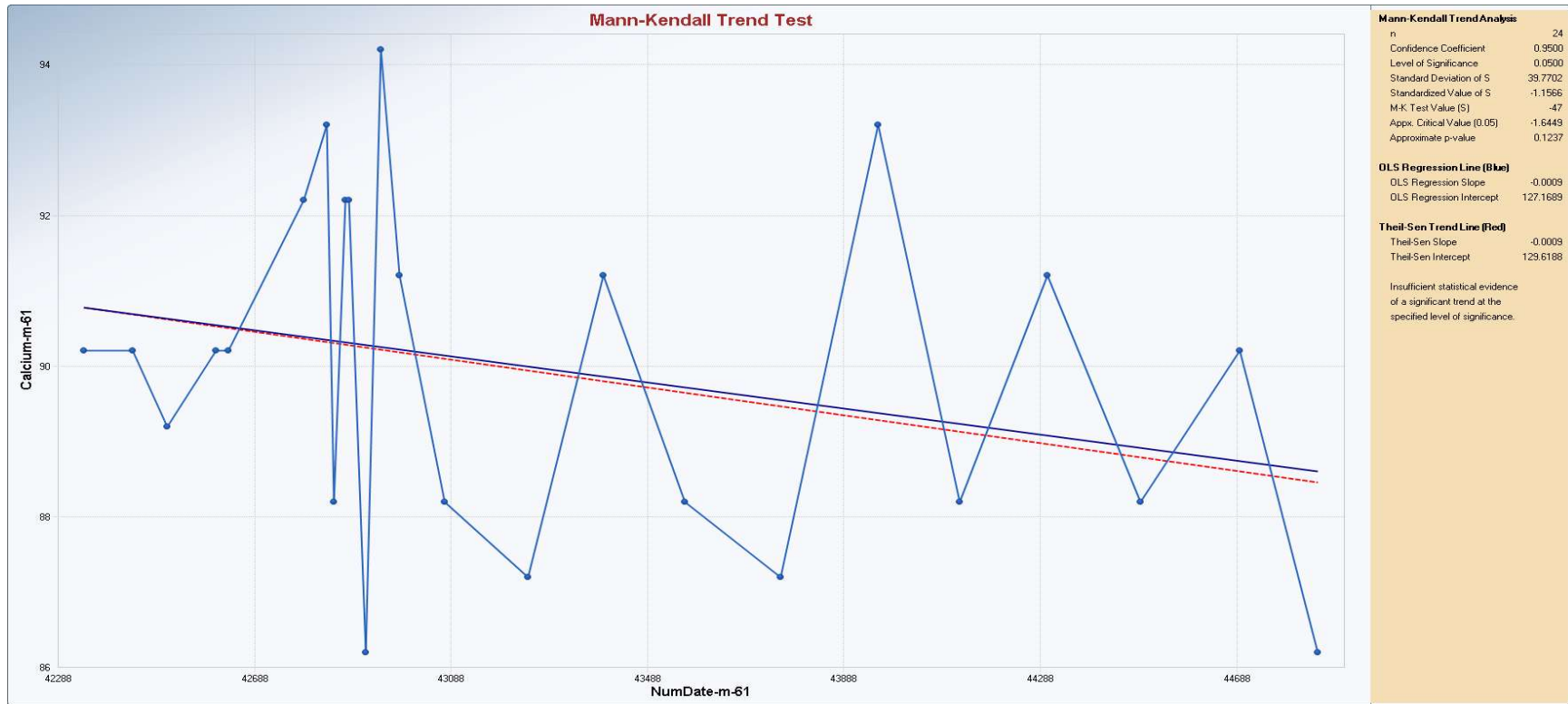
Appendix B Time Series Plots



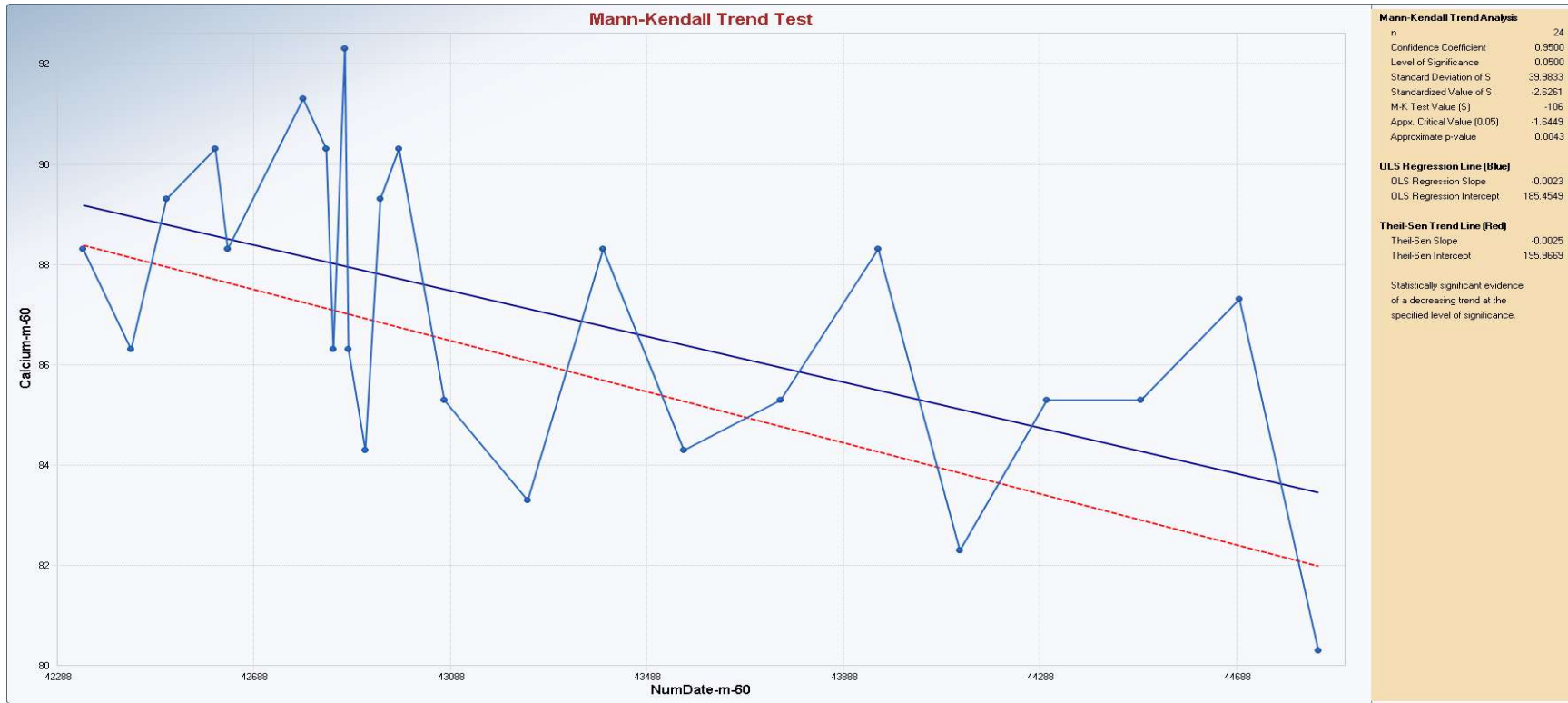
Appendix B Time Series Plots



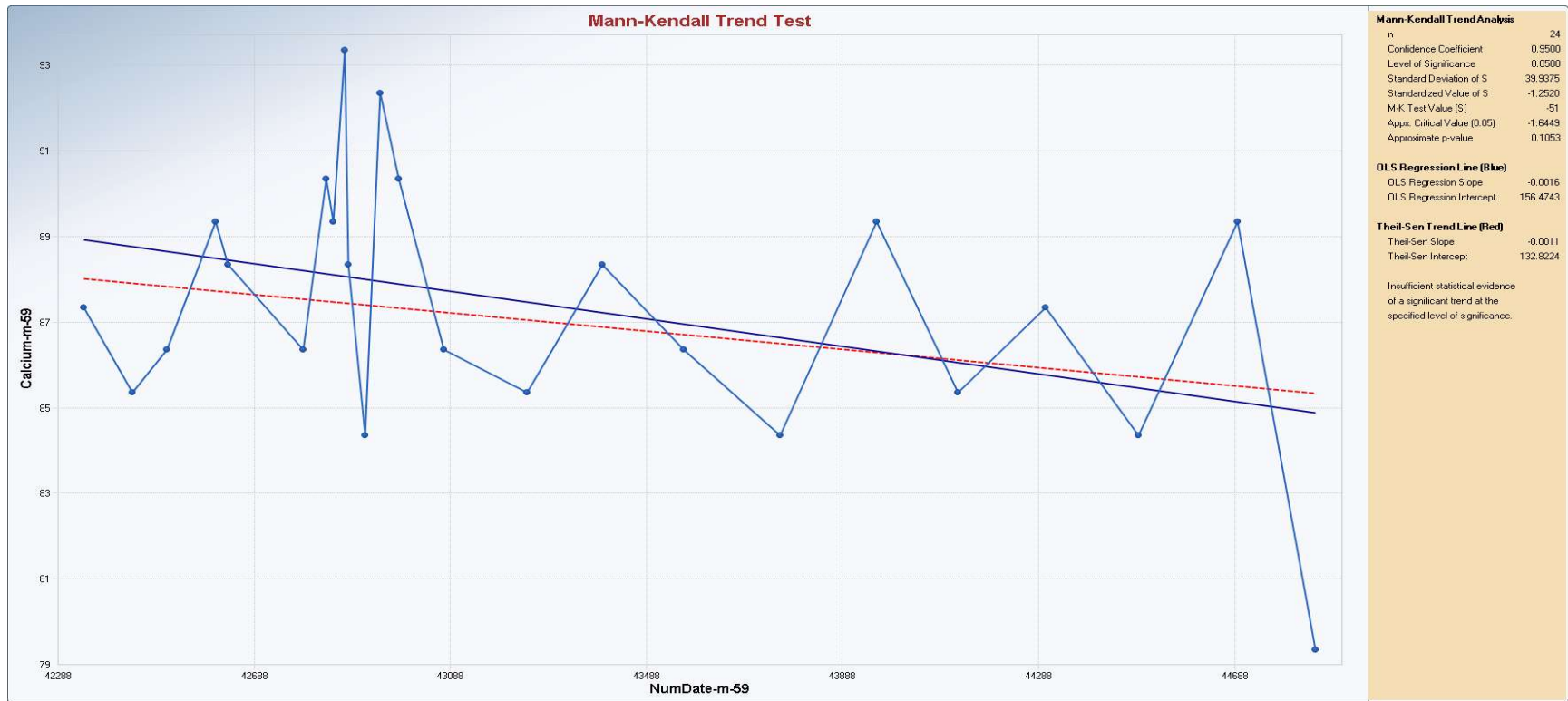
Appendix B Time Series Plots



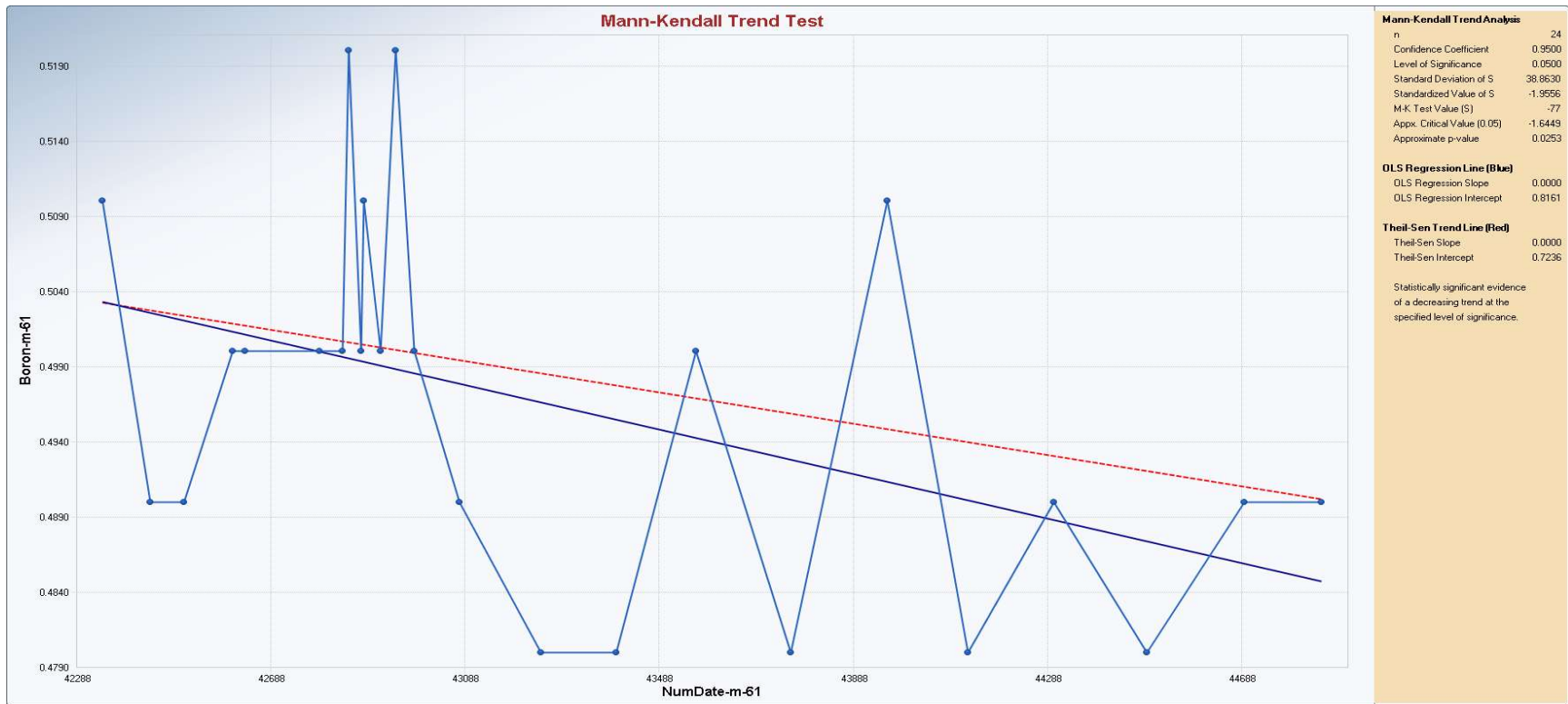
Appendix B Time Series Plots



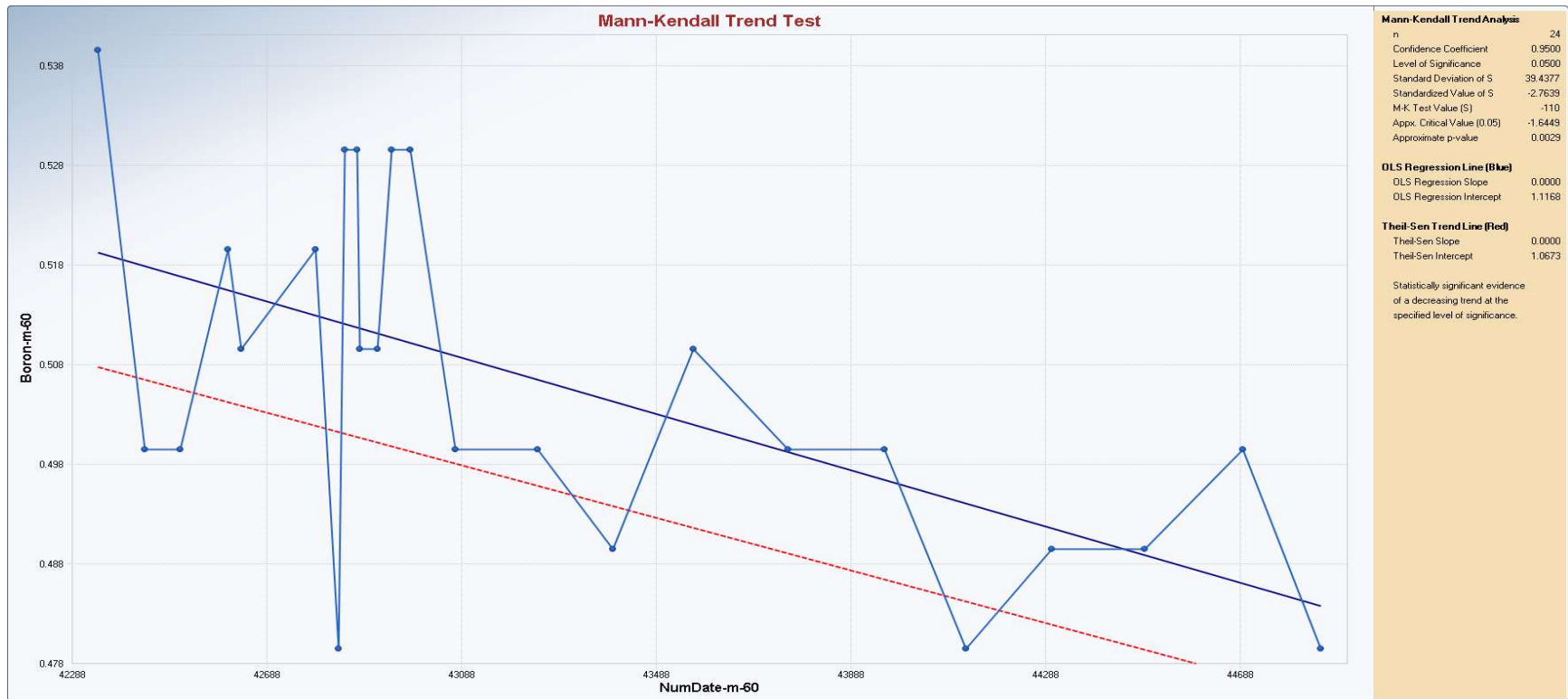
Appendix B Time Series Plots



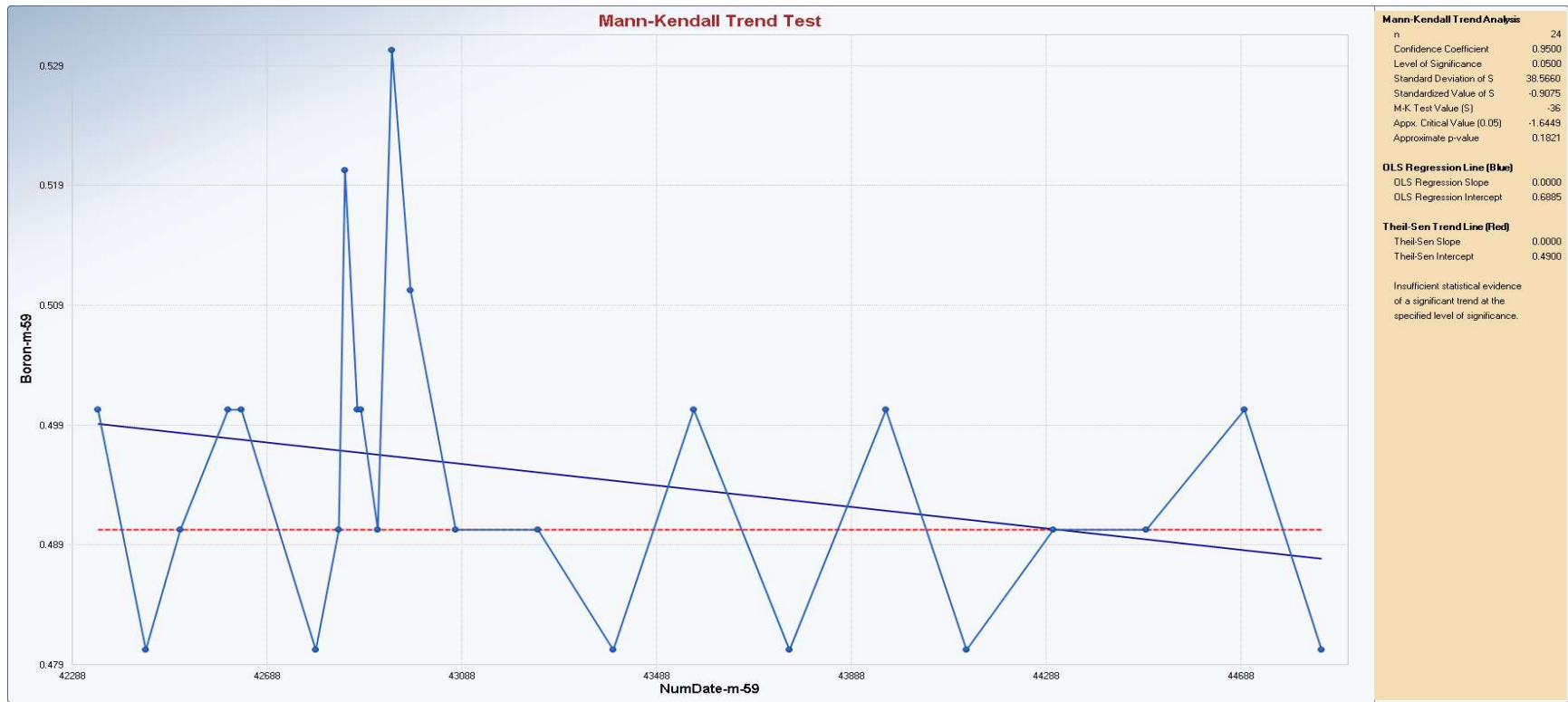
Appendix B Time Series Plots



Appendix B Time Series Plots



Appendix B Time Series Plots



Appendix B Time Series Statistics

User Selected Options		Mann-Kendall Trend Test Analysis					
Date/Time of Computation	ProUCL 5.13/28/2023 5:41:50 PM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Level of Significance	0.05						
Boron-m-59							
General Statistics							
Number of Events Reported (m)	26						
Number of Missing Events	2						
Number of Reported Events Used	24						
Number Values Reported (n)	26						
Number Values Missing	2						
Number Values Used	24						
Minimum	0.48						
Maximum	0.53						
Mean	0.495						
Geometric Mean	0.494						
Median	0.49						
Standard Deviation	0.0128						
Coefficient of Variation	0.026						
Mann-Kendall Test							
M-K Test Value (S)	-36						
Critical Value (0.05)	-1.645						
Standard Deviation of S	38.57						
Standardized Value of S	-0.908						
Approximate p-value	0.182						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Boron-m-60							
General Statistics							
Number of Events Reported (m)	28						
Number of Missing Events	4						
Number of Reported Events Used	24						

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Number Values Reported (n)	28							
Number Values Missing	4							
Number Values Used	24							
Minimum	0.48							
Maximum	0.54							
Mean	0.506							
Geometric Mean	0.506							
Median	0.5							
Standard Deviation	0.0174							
Coefficient of Variation	0.0344							
Mann-Kendall Test								
M-K Test Value (S)	-110							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.44							
Standardized Value of S	-2.764							
Approximate p-value	0.00286							
Statistically significant evidence of a decreasing trend at the specified level of significance.								
Boron-m-61								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	3							
Number of Reported Events Used	24							
Number Values Reported (n)	27							
Number Values Missing	3							
Number Values Used	24							
Minimum	0.48							
Maximum	0.52							
Mean	0.496							
Geometric Mean	0.496							
Median	0.5							
Standard Deviation	0.0121							
Coefficient of Variation	0.0244							
Mann-Kendall Test								
M-K Test Value (S)	-77							

Appendix B Time Series Statistics

Number of Events Reported (m)	26						
Critical Value (0.05)	-1.645						
Standard Deviation of S	38.86						
Standardized Value of S	-1.956						
Approximate p-value	0.0253						
Statistically significant evidence of a decreasing trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
Date/Time of Computation	ProUCL 5.13/28/2023 5:49:12 PM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Level of Significance	0.05						
Calcium-m-59							
General Statistics							
Number of Events Reported (m)	26						
Number of Missing Events	2						
Number of Reported Events Used	24						
Number Values Reported (n)	26						
Number Values Missing	2						
Number Values Used	24						
Minimum	79						
Maximum	93						
Mean	87.04						
Geometric Mean	86.99						
Median	87						
Standard Deviation	2.985						
Coefficient of Variation	0.0343						
Mann-Kendall Test							
M-K Test Value (S)	-51						
Critical Value (0.05)	-1.645						
Standard Deviation of S	39.94						
Standardized Value of S	-1.252						
Approximate p-value	0.105						

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Calcium-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	4							
Number or Reported Events Used	24							
Number Values Reported (n)	28							
Number Values Missing	4							
Number Values Used	24							
Minimum	80							
Maximum	92							
Mean	86.71							
Geometric Mean	86.66							
Median	86.5							
Standard Deviation	2.985							
Coefficient of Variation	0.0344							
Mann-Kendall Test								
M-K Test Value (S)	-106							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.98							
Standardized Value of S	-2.626							
Approximate p-value	0.00432							
Statistically significant evidence of a decreasing trend at the specified level of significance.								
Calcium-m-61								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	3							
Number or Reported Events Used	24							
Number Values Reported (n)	27							
Number Values Missing	3							
Number Values Used	24							
Minimum	86							

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Maximum	94							
Mean	89.75							
Geometric Mean	89.72							
Median	90							
Standard Deviation	2.27							
Coefficient of Variation	0.0253							
Mann-Kendall Test								
M-K Test Value (S)	-47							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.77							
Standardized Value of S	-1.157							
Approximate p-value	0.124							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Mann-Kendall Trend Test Analysis								
User Selected Options								
Date/Time of Computation	ProUCL 5.13/28/2023 5:50:57 PM							
From File	Cholla_BAM_ProUCL_Upload_20230328.xls							
Full Precision	OFF							
Confidence Coefficient	0.95							
Level of Significance	0.05							
Chloride-m-59								
General Statistics								
Number of Events Reported (m)	26							
Number of Missing Events	2							
Number of Reported Events Used	24							
Number Values Reported (n)	26							
Number Values Missing	2							
Number Values Used	24							
Minimum	1200							
Maximum	1400							
Mean	1317							
Geometric Mean	1314							
Median	1300							

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Standard Deviation	81.65							
Coefficient of Variation	0.062							
Mann-Kendall Test								
M-K Test Value (S)	-78							
Critical Value (0.05)	-1.645							
Standard Deviation of S	37.51							
Standardized Value of S	-2.053							
Approximate p-value	0.02							
Statistically significant evidence of a decreasing trend at the specified level of significance.								
Chloride-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	3							
Number of Reported Events Used	25							
Number Values Reported (n)	28							
Number Values Missing	3							
Number Values Used	25							
Minimum	1200							
Maximum	1500							
Mean	1372							
Geometric Mean	1370							
Median	1400							
Standard Deviation	67.82							
Coefficient of Variation	0.0494							
Mann-Kendall Test								
M-K Test Value (S)	-39							
Critical Value (0.05)	-1.645							
Standard Deviation of S	37.14							
Standardized Value of S	-1.023							
Approximate p-value	0.153							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Chloride-m-61								

Appendix B Time Series Statistics

Number of Events Reported (m)	26						
General Statistics							
Number of Events Reported (m)	27						
Number of Missing Events	3						
Number of Reported Events Used	24						
Number Values Reported (n)	27						
Number Values Missing	3						
Number Values Used	24						
Minimum	1100						
Maximum	1700						
Mean	1375						
Geometric Mean	1371						
Median	1400						
Standard Deviation	111.3						
Coefficient of Variation	0.081						
Mann-Kendall Test							
M-K Test Value (S)	-56						
Critical Value (0.05)	-1.645						
Standard Deviation of S	36.43						
Standardized Value of S	-1.51						
Approximate p-value	0.0656						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
Date/Time of Computation	ProUCL 5.13/31/2023 8:52:45 AM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Level of Significance	0.05						
Fluoride-m-59							
General Statistics							
Number of Events Reported (m)	26						
Number of Missing Events	2						

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Number or Reported Events Used	24							
Number Values Reported (n)	26							
Number Values Missing	2							
Number Values Used	24							
Minimum	1.3							
Maximum	1.8							
Mean	1.404							
Geometric Mean	1.401							
Median	1.4							
Standard Deviation	0.0999							
Coefficient of Variation	0.0712							
Mann-Kendall Test								
M-K Test Value (S)	57							
Critical Value (0.05)	1.645							
Standard Deviation of S	33.38							
Standardized Value of S	1.678							
Approximate p-value	0.0467							
Statistically significant evidence of an increasing trend at the specified level of significance.								
Fluoride-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	3							
Number or Reported Events Used	25							
Number Values Reported (n)	28							
Number Values Missing	3							
Number Values Used	25							
Minimum	1.3							
Maximum	1.7							
Mean	1.452							
Geometric Mean	1.45							
Median	1.4							
Standard Deviation	0.077							
Coefficient of Variation	0.053							
Mann-Kendall Test								

Appendix B Time Series Statistics

Number of Events Reported (m)	26								
M-K Test Value (S)	51								
Critical Value (0.05)	1.645								
Standard Deviation of S	38.15								
Standardized Value of S	1.311								
Approximate p-value	0.095								
Insufficient evidence to identify a significant trend at the specified level of significance.									
Fluoride-m-61									
General Statistics									
Number of Events Reported (m)	27								
Number of Missing Events	2								
Number of Reported Events Used	25								
Number Values Reported (n)	27								
Number Values Missing	2								
Number Values Used	25								
Minimum	1.3								
Maximum	1.6								
Mean	1.432								
Geometric Mean	1.43								
Median	1.4								
Standard Deviation	0.0748								
Coefficient of Variation	0.0523								
Mann-Kendall Test									
M-K Test Value (S)	43								
Critical Value (0.05)	1.645								
Standard Deviation of S	39.05								
Standardized Value of S	1.076								
Approximate p-value	0.141								
Insufficient evidence to identify a significant trend at the specified level of significance.									
Mann-Kendall Trend Test Analysis									
User Selected Options									
Date/Time of Computation	ProUCL 5.13/31/2023 9:05:45 AM								
From File	Cholla_BAM_ProUCL_Upload_20230328.xls								

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Full Precision	OFF							
Confidence Coefficient	0.95							
Level of Significance	0.05							
pH-m-59								
General Statistics								
Number of Events Reported (m)	26							
Number of Missing Events	2							
Number or Reported Events Used	24							
Number Values Reported (n)	26							
Number Values Missing	2							
Number Values Used	24							
Minimum	7.5							
Maximum	8.1							
Mean	7.683							
Geometric Mean	7.682							
Median	7.65							
Standard Deviation	0.149							
Coefficient of Variation	0.0194							
Mann-Kendall Test								
M-K Test Value (S)	-17							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.38							
Standardized Value of S	-0.406							
Approximate p-value	0.342							
Insufficient evidence to identify a significant trend at the specified level of significance.								
pH-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	5							
Number or Reported Events Used	23							
Number Values Reported (n)	28							
Number Values Missing	5							
Number Values Used	23							

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Minimum	7.5							
Maximum	8							
Mean	7.678							
Geometric Mean	7.677							
Median	7.7							
Standard Deviation	0.131							
Coefficient of Variation	0.017							
Mann-Kendall Test								
M-K Test Value (S)	-54							
Critical Value (0.05)	-1.645							
Standard Deviation of S	36.92							
Standardized Value of S	-1.435							
Approximate p-value	0.0756							
Insufficient evidence to identify a significant trend at the specified level of significance.								
pH-m-61								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	4							
Number of Reported Events Used	23							
Number Values Reported (n)	27							
Number Values Missing	4							
Number Values Used	23							
Minimum	7.22							
Maximum	8							
Mean	7.661							
Geometric Mean	7.66							
Median	7.7							
Standard Deviation	0.165							
Coefficient of Variation	0.0215							
Mann-Kendall Test								
M-K Test Value (S)	-11							
Critical Value (0.05)	-1.645							
Standard Deviation of S	37.08							
Standardized Value of S	-0.27							

Appendix B Time Series Statistics

Number of Events Reported (m)	26						
Approximate p-value	0.394						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
Date/Time of Computation	ProUCL 5.13/31/2023 9:08:57 AM						
From File	Cholla_BAM_ProUCL_Upload_20230328.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Level of Significance	0.05						
Sulfate-m-59							
General Statistics							
Number of Events Reported (m)	26						
Number of Missing Events	1						
Number of Reported Events Used	25						
Number Values Reported (n)	26						
Number Values Missing	1						
Number Values Used	25						
Minimum	330						
Maximum	400						
Mean	350.4						
Geometric Mean	350.1						
Median	350						
Standard Deviation	13.99						
Coefficient of Variation	0.0399						
Mann-Kendall Test							
M-K Test Value (S)	49						
Critical Value (0.05)	1.645						
Standard Deviation of S	40.38						
Standardized Value of S	1.189						
Approximate p-value	0.117						
Insufficient evidence to identify a significant trend at the specified level of significance.							

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Sulfate-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	2							
Number or Reported Events Used	26							
Number Values Reported (n)	28							
Number Values Missing	2							
Number Values Used	26							
Minimum	340							
Maximum	450							
Mean	363.5							
Geometric Mean	362.6							
Median	355							
Standard Deviation	27.27							
Coefficient of Variation	0.075							
Mann-Kendall Test								
M-K Test Value (S)	67							
Critical Value (0.05)	1.645							
Standard Deviation of S	43.41							
Standardized Value of S	1.52							
Approximate p-value	0.0642							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Sulfate-m-61								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	2							
Number or Reported Events Used	25							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	340							
Maximum	420							
Mean	361.6							
Geometric Mean	361.1							

Appendix B Time Series Statistics

Number of Events Reported (m)	26								
Median	360								
Standard Deviation	19.3								
Coefficient of Variation	0.0534								
Mann-Kendall Test									
M-K Test Value (S)	26								
Critical Value (0.05)	1.645								
Standard Deviation of S	41.56								
Standardized Value of S	0.602								
Approximate p-value	0.274								
Insufficient evidence to identify a significant trend at the specified level of significance.									
Mann-Kendall Trend Test Analysis									
User Selected Options									
Date/Time of Computation	ProUCL 5.13/31/2023 9:10:06 AM								
From File	Cholla_BAM_ProUCL_Upload_20230328.xls								
Full Precision	OFF								
Confidence Coefficient	0.95								
Level of Significance	0.05								
TDS-m-59									
General Statistics									
Number of Events Reported (m)	26								
Number of Missing Events	1								
Number of Reported Events Used	25								
Number Values Reported (n)	26								
Number Values Missing	1								
Number Values Used	25								
Minimum	2300								
Maximum	2900								
Mean	2708								
Geometric Mean	2705								
Median	2700								
Standard Deviation	128.8								
Coefficient of Variation	0.0476								

Appendix B Time Series Statistics

Number of Events Reported (m)	26							
Mann-Kendall Test								
M-K Test Value (S)	-19							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.68							
Standardized Value of S	-0.454							
Approximate p-value	0.325							
Insufficient evidence to identify a significant trend at the specified level of significance.								
TDS-m-60								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	1							
Number of Reported Events Used	27							
Number Values Reported (n)	28							
Number Values Missing	1							
Number Values Used	27							
Minimum	2200							
Maximum	4200							
Mean	2867							
Geometric Mean	2847							
Median	2800							
Standard Deviation	364.8							
Coefficient of Variation	0.127							
Mann-Kendall Test								
M-K Test Value (S)	25							
Critical Value (0.05)	1.645							
Standard Deviation of S	45.35							
Standardized Value of S	0.529							
Approximate p-value	0.298							
Insufficient evidence to identify a significant trend at the specified level of significance.								
TDS-m-61								
General Statistics								
Number of Events Reported (m)	27							

APPENDIX

F

WSP TECHNICAL
MEMORANDUM
DOCUMENTING THE
STATISTICAL ANALYSIS OF
APPENDIX III CONSTITUENT
DATA COLLECTED FOR THE
BAM THROUGH APRIL 2023



TECHNICAL MEMORANDUM

To: Arizona Public Service Company Project No. 14-2023-2012

By: Samantha O'Shea Reviewed by: Maren Henley, PE

Tel: 602-733-6000 CC: File

Date: October 09, 2023

Re: CCR GROUNDWATER DETECTION MONITORING
STATISTICAL ANALYSIS AND RESULTS FOR THE BOTTOM ASH MONOFILL
APPENDIX III CONSTITUENT DATA COLLECTED THROUGH APRIL 2023
Arizona Public Service Company Cholla Power Plant - Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Geosciences Consulting LLC (Geosciences Consulting), a subcontractor to WSP USA Environment and Infrastructure, Inc. (WSP) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The BAM is a Site CCR unit that is currently in detection monitoring. The CCR Rule requires semi-annual evaluations of Appendix III constituent data collected from BAM downgradient wells on an ongoing basis to determine if a statistically significant increase (SSI) over the respective background threshold values (BTVs) presented in Attachment A. The statistical evaluation documented herein incorporates Appendix III constituent data collected from BAM downgradient wells M-59, M-60, and M-61 and BAM background well M-54 during the April 2023 semi-annual sampling event. The statistical evaluation was performed using the results of the 12 initial (or baseline) sampling rounds conducted prior to November 2017 and 12 detection monitoring sampling rounds beginning in November 2017. Groundwater concentrations are then compared to the M-54 background levels, represented by the interwell or intrawell BTVs calculated for each Appendix III constituent in the *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the BAM, Appendix III Constituent Data Collected through October 2020* (Wood, 2021). Details of the results of the statistical evaluation are presented in Section 2.0.

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation conducted by Geosciences Consulting. The results of the April 2023 BAM downgradient well statistical evaluation are as follows:

- There are currently no SSIs over their respective BTVs for Appendix III constituents.
- No Appendix III constituents were detected at concentrations exceeding their respective BTVs during the April 2023 groundwater sampling event.
- A statistically significant decreasing temporal trend is evident for concentrations of chloride at M-59 and concentrations of boron and calcium at M-60.



- A statistically significant increasing temporal trend is evident for concentrations of fluoride at M-59 and concentrations of sulfate at M-60. Fluoride and sulfate did not exceed their intrawell BTVs and no SSI is present.

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of detection monitoring at a semi-annual frequency for Appendix III constituents at the BAM is warranted because there are currently no SSIs over Appendix III constituent background levels.


The BAM SDAWP recommends updating BTVs every couple of years. There are several Appendix III constituents in background well M-54 (Attachment A), including chloride and sulfate, that exhibit concentrations in exceedance of their respective BTVs (Table 1 of Attachment A) in recent years. This is one indication that the BTVs need updating to assure they are representative of current groundwater conditions at the BAM. It is recommended that BTVs be updated during the 2024 sampling year.

4.0 REFERENCES

- Federal Register, 2020. 40 Code of Federal Regulations Part 257 - Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments).
- United States Environmental Protection Agency (USEPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.
- Wood, 2021. CCR Groundwater Detection Monitoring Statistical Analysis and Results for the BAM, Appendix III Constituent Data Collected through October 2020. Arizona Public Service Cholla Power Plant, Navajo County, Arizona. Prepared for Arizona Public Service. April 12, 2021.
- WSP USA Environment & Infrastructure, Inc. (WSP), 2023. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared for Arizona Public Service. January 10, 2023.

ATTACHMENT A

DETECTION MONITORING
STATISTICAL EVALUATION OF BAM -
GEOSCIENCE CONSULTING
STRATEGIES LLC



Technical Memorandum

To: Maren Henley, PE
WSP USA Environment & Infrastructure Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: October 5, 2023

**Subject: CCR Groundwater Semiannual Detection Monitoring
Statistical Evaluation of BAM Data through April 2023
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona**

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the ongoing statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the *Statistical Data Analysis Work Plan* (SDAWP) for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2020; WSP USA Environment & Infrastructure Inc. [WSP], 2023).

This statistical evaluation incorporates the April 2023 semiannual detection monitoring at the BAM. The following sections present data inputs, statistical methods, results and recommendations for the subject analysis.

2.0 DATA INPUTS

The BAM groundwater monitoring well network consists of one background monitoring well (M-54) and three compliance (i.e., downgradient) monitoring wells (M-59, M-60 and M-61).

The BAM detection monitoring program is scheduled to perform statistical evaluations semiannually. The period of evaluation for this subject analysis ranges from November 2015 through April 2023 and includes the minimum of eight initial, or baseline, sampling rounds required by the CCR Rule (spanning December 2015 to July 2017) and twelve subsequent sampling rounds of detection monitoring that occur on a semi-annual frequency (spanning September 2017 to April 2023, as shown in the table inset below). Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling).

BAM Sampling Round	Date
1 st	September 2017
2 nd	April 2018
3 rd	November 2018
4 th	May 2019
5 th	December 2019
6 th	June 2020
7 th	November 2020
8 th	April 2021
9 th	November 2021
10 th	May 2022
11 th	October 2022
12 th	April 2023

This data evaluation evaluates between 24 and 28 samples each for boron, calcium, chloride, sulfate, field pH and total dissolved solids (TDS) within each compliance monitoring well. Appendix A contains the contents of the data upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, WSP. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention, each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0." The detection frequency is 100% for all sample data listed in Appendix A.

Table 1 details the not-to-exceed Background Threshold Values (BTVs) and method of calculation for the BAM. Per the SDAWP (WSP, 2023), the BTVs are updated over time. The dates in Table 1 reflect the sampling period that represents the current BAM BTVs.

3.0 METHODS

This statistical analysis follows the statistical methods and approaches put forth in the SDAWP (WSP, 2023) and the United States Environmental Protection Agency (US EPA) Unified Guidance (2009). The subject statistical analysis consists of: 1) exploratory data analysis (EDA), including outlier analysis, calculating summary statistics, temporal trend analysis for all constituent-well pairings and fitting a statistical distribution model (i.e., Goodness-of-Fit Test Statistics) to sample populations and 2) comparing the April 2023 sample concentrations to corresponding not-to-exceed BTVs in Table 1. If an exceedance exists, the statistical significance of this exceedance is assessed through the prescribed resampling strategy.

4.0 RESULTS

Table 2 summarizes: 1) which Appendix III constituents exhibit exceedances above their respective BTVs by compliance well and 2) which constituents exhibit statistically significant ($p < 0.05$) temporal trends.

Appendix B contains the raw ProUCL EDA outputs as reference for the following statistical findings:

Monitoring Well M-59. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the April 2023 sampling event.

The statistically significant ($p < 0.05$) trends for chloride (decreasing) and fluoride (increasing) remain persistent at this monitoring location during the April 2023 sampling event. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents.

Monitoring Well M-60. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the April 2023 sampling event.

During the April 2023 sampling event, the statistically significant ($p < 0.05$) decreasing trends for boron and calcium at this monitoring location persists and sulfate demonstrates a statistically significant ($p < 0.05$) increasing trend. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents.

Monitoring Well M-61. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the April 2023 sampling event.

The historically statistically significant ($p < 0.05$) decreasing trend for boron becomes insignificant at this monitoring location during the April 2023 sampling event. There are no significant ($p < 0.05$) temporal trends for the remaining Appendix III constituents at this monitoring location.

5.0 RECOMMENDATIONS

There are several Appendix III constituents in background well M-54 (see Appendix A), including chloride and sulfate, that exhibit concentrations in exceedance of their respective BTVs (see Table 1) in recent years. The BTVs shown in Table 1 represent sample data through 2020 and 2021, depending on the type of UPL calculation. Given approximately two to three years have passed since the last BTV update, and background well constituent concentrations were recently detected above the BTVs shown in Table 1, it is recommended that BTVs for the BAM be updated during the 2024 sampling year.

6.0 REFERENCES

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

WSP USA Environment & Infrastructure Inc. [WSP], 2023, 2023. Statistical Data Analysis Work Plan. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant. Navajo County, Arizona. Prepared for Arizona Public Service. January 30, 2023.

United States Environmental Protection Agency (US EPA), 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

ATTACHMENTS

Table 1 – BTVs and Intrawell UPLs for the Cholla BAM

Table 2 – Cholla BAM Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table

Appendix B – ProUCL EDA Output Files

Table 1
BTVs for the Cholla BAM
Appendix III Statistical Analysis

Background Well	Dates Corresponding to Data Used to Derive UPL	Constituent	Interwell BTVs (Calculation Method)	Units	Resampling Strategy ¹
M-54	12/3/2015-10/21/2020	Boron	0.55 (P-UPLT)	mg/L	1 of 2
M-54	12/3/2015-10/21/2020	Calcium	101 (NP-UPLT)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Chloride	1,600 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	pH (upper limit)	7.8 (P-UPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	pH (lower limit)	7.3 (P-LPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	Sulfate	380 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	TDS	3225 (P-UPL)	mg/L	1 of 2

Compliance Well	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell BTVs (Calculation Method ¹)	Units	Resampling Strategy
M-60	12/3/15-4/16/2021	Fluoride	1.7 (NP-UPL)	mg/L	1 of 2
M-61	12/3/15-4/16/2021	Fluoride	1.6 (NP-UPL)	mg/L	1 of 2

Notes:

BAM = Bottom Ash Pond

BTV = background threshold value

LPL = lower prediction limit

mg/L = milligrams per liter

NP = Non Parametric

P = Parametric

SU = standard units

TDS = total dissolved solids

UPL(T) = upper prediction limit (trend)

¹ A 1 of 2 resampling strategy is in place for interwell parametric prediction limits. A 1 of 2 or a 1 of 3 resampling strategy is in place for non-parametric prediction limits and the limit represents the second highest concentration (i.e., second-order) value or the maximum concentration value of the data set (i.e., maximum order statistic), respectively. The BTV for calcium represents the second highest concentration value because the maximum concentration value is a perceived outlier and was removed from the evaluation.

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-59	7803 O	03-Dec-15	0.5	87	1300	1.3	7.53	340	2700
M-59	CH-M-59-0316 O	10-Mar-16	0.48	85	1400	1.3	7.57	350	2700
M-59	CH-CCR-M59-516 O	20-May-16	0.49	86	1400	1.4	---	340	2700
M-59	CH-CCR-M59-816 O	27-Aug-16	0.5	89	1400	1.4	7.6	350	2700
M-59	CH-CCR-M59-916 O	22-Sep-16	0.5	88	1300	1.4	7.8	340	2900
M-59	CH-CCR-M59-217 O	22-Feb-17	0.48	86	1200	1.3	7.8	330	2800
M-59	CH-CCR-M59-41117 O	11-Apr-17	0.49	90	1400	1.3	8.1	350	2800
M-59	CH-CCR-M59-42417 O	24-Apr-17	0.52	89	1300	1.4	7.7	350	2800
M-59	CH-CCR-M59-51917 O	19-May-17	0.5	93	1400	1.4	7.8	360	2700
M-59	CH-CCR-M59-52517 O	25-May-17	0.5	88	1300	1.4	7.6	350	2700
M-59	CH-CCR-M59-62917 O	29-Jun-17	0.49	84	1400	1.5	7.8	370	2500
M-59	CH-CCR-M59-72917 O	29-Jul-17	0.53	92	1300	1.5	7.6	340	2800
M-59	CH-CCR-M59-90517 O	05-Sep-17	0.51	90	1300	1.4	7.7	360	2700
M-59	CH-CCR-M59-120717 O	07-Dec-17	0.49	86	1400	1.4	7.7	350	2700
M-59	CH-CCR-M-59-52518 O	25-May-18	0.49	85	1400	1.4	7.5	350	2700
M-59	CH-CCR-M-59-102618	26-Oct-18	0.48	88	1400	1.4	7.6	360	2500
M-59	CH-CCR-M59-40919	09-Apr-19	0.5	86	1200	1.4	7.9	330	2700
M-59	CH-CCR-M59-102319	23-Oct-19	0.48	84	1400	1.3	7.5	350	2800
M-59	CH-CCR-M59-0520	07-May-20	0.5	89	1200	1.8	7.7	350	2800
M-59	CH-CCR-M59-1020	21-Oct-20	0.48	85	1300	1.4	7.5	340	2700
M-59	CH-CCR-M59-0421	16-Apr-21	0.49	87	1200	1.4	7.6	340	2800
M-59	CH-CCR-M59-1021	24-Oct-21	0.49	84	1300	1.4	7.7	400	2300
M-59	CH-CCR-M59-1121	19-Nov-21	NA	NA	NA	NA	NA	360	2600
M-59	CH-CCR-M59-0522	13-May-22	0.5	89	1200	1.4	7.9	350	2900
M-59	CH-CCR-M59-0822	30-Aug-22	---	---	---	---	7.6	---	---
M-59	CH-CCR-M59-1022	19-Oct-22	0.48	79	1200	1.4	7.6	350	2700
M-59	CH-CCR-M59-0423	12-Apr-23	0.51	93	1300	1.4	7.8	360	2800
		Units:	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
		BTV ^{1,2} :	0.55	101	1600	1.8	7.8/7.3	380	3225
		Temporal Trend ³ :	None	None	Decreasing	Increasing	None	None	None

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-60	7801_O	03-Dec-15	0.54	88	1400	1.3	7.56	350	2800
M-60	CH-M-60A-0316_O	09-Mar-16	0.5	86	1400	1.4	7.83	350	2800
M-60	CH-CCR-M60-516_O	20-May-16	0.5	89	1400	1.5	---	350	2800
M-60	CH-CCR-M60-816_O	27-Aug-16	0.52	90	1400	1.5	7.5	360	2800
M-60	CH-CCR-M60-916_O	22-Sep-16	0.51	88	1300	1.4	7.8	350	3000
M-60	CH-CCR-M60-217_O	22-Feb-17	0.52	91	1300	1.4	7.8	340	2800
M-60	CH-CCR-M60-41117_O	11-Apr-17	0.48	90	1400	1.4	8	360	2900
M-60	CH-CCR-M60-42417_O	24-Apr-17	0.53	86	1400	1.4	7.8	350	2700
M-60	CH-CCR-M60-51917_O	19-May-17	0.53	92	1400	1.4	7.7	360	2800
M-60	CH-CCR-M60-52517_O	25-May-17	0.51	86	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-62917_O	29-Jun-17	0.51	84	1500	1.5	7.7	440	2500
M-60	CH-CCR-M60-72917_O	29-Jul-17	0.53	89	1400	1.5	7.6	370	2800
M-60	CH-CCR-M60-90517_O	05-Sep-17	0.53	90	1400	1.5	7.6	360	2800
M-60	CH-CCR-M60-120717_O	07-Dec-17	0.5	85	1500	1.4	7.6	360	2900
M-60	CH-CCR-M-60-52518_O	25-May-18	0.5	83	1400	1.5	7.5	350	2800
M-60	CH-CCR-M-60-102618	26-Oct-18	0.49	88	1400	1.4	7.7	350	2600
M-60	CH-CCR-M60-40919	09-Apr-19	0.51	84	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-102219	22-Oct-19	0.5	85	1400	1.4	7.6	360	2800
M-60	CH-CCR-M60-0520	07-May-20	0.5	88	1200	1.7	7.7	350	2900
M-60	CH-CCR-M60-1020	21-Oct-20	0.48	82	1400	1.4	7.5	340	2900
M-60	CH-CCR-M60-0421	16-Apr-21	0.49	85	1300	1.5	7.8	340	4200
M-60	CH-CCR-M60-0721	07-Jul-21	---	---	---	---	---	---	2700
M-60	CH-CCR-M60-1021	24-Oct-21	0.49	85	1300	1.5	7.6	450	2900
M-60	CH-CCR-M60-1121	19-Nov-21	NA	NA	NA	NA	NA	370	2200
M-60	CH-CCR-M60-0522	13-May-22	0.5	87	1400	1.4	7.8	360	3800
M-60	CH-CCR-M60-0822	31-Aug-22	---	---	---	---	---	---	2900
M-60	CH-CCR-M60-1022	20-Oct-22	0.48	80	1300	1.5	7.5	400	2700
M-60	CH-CCR-M60-0123	26-Jan-23	---	---	1400	1.5	---	380	---
M-60	CH-CCR-M60-0523	10-May-23	0.51	79	1400	1.4	7.7	370	2800
		Units:	mg/L	mg/L	mg/L	mg/L	SU	mg/L	mg/L
		BTV ^{1,2} :	0.55	101	1600	1.7	7.8/7.3	380	3225
		Temporal Trend ³ :	Decreasing	Decreasing	None	None	None	Increasing	None

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Notes:

BTV = background threshold value
 mg/L = milligrams per liter
 TDS = total dissolved solids
 UPL = upper prediction limit
 SU = standard units

0.50	Value from baseline monitoring period (December 2015 to September 2017)
	Reported value in current sampling round exceeds the BTV
	Statistically significant increasing trend present
	Statistically significant decreasing trend present
None	Insufficient evidence to identify a trend.

¹ New values calculated for this sampling round presented in bolded red text; see Table 1 for relevant BTV information.

² For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively. Values represent field pH measurements.

³ Temporal trends evaluated with Mann-Kendall trend tests ($p < 0.05$); tied values (sequential sample concentrations that are equal overtime) can cause misleading trend results.

Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-54	7799	12/3/2015	0.52	1	100	1	1500	1	1.2	1	7.34	1	380	1	3000	1
M-54	CH-M-54-0316	3/10/2016	0.53	1	100	1	1600	1	1.3	1	7.56	1	360	1	2900	1
M-54	CH-CCR-M54-516	5/20/2016	0.51	1	100	1	1500	1	1.4	1	NA	NA	350	1	3000	1
M-54	CH-CCR-M54-816	8/27/2016	0.53	1	110	1	1600	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-916	9/22/2016	0.52	1	99	1	1400	1	1.4	1	7.7	1	350	1	3200	1
M-54	CH-CCR-M54-217	2/21/2017	0.52	1	100	1	1300	1	1.3	1	7.7	1	350	1	2900	1
M-54	CH-CCR-M54-41117	4/11/2017	0.51	1	100	1	1500	1	1.2	1	7.7	1	360	1	3100	1
M-54	CH-CCR-M54-42417	4/24/2017	0.53	1	95	1	1500	1	1.3	1	7.6	1	370	1	3000	1
M-54	CH-CCR-M54-51917	5/19/2017	0.5	1	99	1	1600	1	1.3	1	7.8	1	380	1	3200	1
M-54	CH-CCR-M54-52517	5/25/2017	0.52	1	100	1	1500	1	1.4	1	7.7	1	370	1	3200	1
M-54	CH-CCR-M54-62917	6/29/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	380	1	2900	1
M-54	CH-CCR-M54-72917	7/29/2017	0.56	1	100	1	1500	1	1.4	1	7.4	1	350	1	3100	1
M-54	CH-CCR-M54-90517	9/5/2017	0.55	1	100	1	1500	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-120717	12/7/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	360	1	3000	1
M-54	CH-CCR-M-54-52518	5/25/2018	0.5	1	96	1	1500	1	1.4	1	7.4	1	350	1	3000	1
M-54	CH-CCR-M-54-102618	10/26/2018	0.5	1	100	1	1500	1	1.4	1	7.5	1	360	1	2900	1
M-54	CH-CCR-M54-40919	4/9/2019	0.53	1	98	1	1400	1	1.3	1	7.7	1	340	1	3100	1
M-54	CH-CCR-M54-102219	10/22/2019	0.49	1	95	1	1500	1	1.3	1	7.4	1	350	1	2900	1
M-54	CH-CCR-M54-0520	5/7/2020	0.51	1	98	1	1400	1	1.8	1	7.6	1	360	1	3100	1
M-54	CH-CCR-M54-1020	10/21/2020	0.48	1	92	1	1500	1	1.3	1	7.3	1	350	1	2900	1
M-54	CH-CCR-M54-0421	4/16/2021	0.52	1	100	1	1700	1	1.4	1	7.6	1	420	1	3300	1
M-54	CH-CCR-M54-1021	10/24/2021	0.5	1	96	1	1500	1	1.4	1	7.7	1	400	1	2700	1
M-54	CH-CCR-M54-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2300	1
M-54	CH-CCR-M54-0522	5/13/2022	0.5	1	99	1	1400	1	1.4	1	7.6	1	360	1	3100	1
M-54	CH-CCR-M54-0822	8/31/2022	NA	NA	NA	NA	NA	NA	NA	NA	7.6	1	NA	NA	3100	1
M-54	CH-CCR-M54-1022	10/20/2022	0.5	1	93	1	1500	1	1.4	1	7.5	1	420	1	3100	1
M-54	CH-CCR-M54-0123	1/26/2023	NA	NA	NA	NA	1600	1	1.4	1	NA	NA	390	1	NA	NA
M-54	CH-CCR-M54-0423	4/13/2023	0.53	1	100	1	1500	1	1.4	1	7.8	1	370	1	3100	1
M-59	7803	12/3/2015	0.5	1	87	1	1300	1	1.3	1	7.53	1	340	1	2700	1
M-59	CH-M-59-0316	3/10/2016	0.48	1	85	1	1400	1	1.3	1	7.57	1	350	1	2700	1
M-59	CH-CCR-M59-516	5/20/2016	0.49	1	86	1	1400	1	1.4	1	NA	NA	340	1	2700	1
M-59	CH-CCR-M59-816	8/27/2016	0.5	1	89	1	1400	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-916	9/22/2016	0.5	1	88	1	1300	1	1.4	1	7.8	1	340	1	2900	1
M-59	CH-CCR-M59-217	2/22/2017	0.48	1	86	1	1200	1	1.3	1	7.8	1	330	1	2800	1
M-59	CH-CCR-M59-41117	4/11/2017	0.49	1	90	1	1400	1	1.3	1	8.1	1	350	1	2800	1
M-59	CH-CCR-M59-42417	4/24/2017	0.52	1	89	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-51917	5/19/2017	0.5	1	93	1	1400	1	1.4	1	7.8	1	360	1	2700	1
M-59	CH-CCR-M59-52517	5/25/2017	0.5	1	88	1	1300	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-62917	6/29/2017	0.49	1	84	1	1400	1	1.5	1	7.8	1	370	1	2500	1
M-59	CH-CCR-M59-72917	7/29/2017	0.53	1	92	1	1300	1	1.5	1	7.6	1	340	1	2800	1
M-59	CH-CCR-M59-90517	9/5/2017	0.51	1	90	1	1300	1	1.4	1	7.7	1	360	1	2700	1
M-59	CH-CCR-M59-120717	12/7/2017	0.49	1	86	1	1400	1	1.4	1	7.7	1	350	1	2700	1
M-59	CH-CCR-M-59-52518	5/25/2018	0.49	1	85	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-59	CH-CCR-M-59-102618	10/26/2018	0.48	1	88	1	1400	1	1.4	1	7.6	1	360	1	2500	1
M-59	CH-CCR-M59-40919	4/9/2019	0.5	1	86	1	1200	1	1.4	1	7.9	1	330	1	2700	1
M-59	CH-CCR-M59-102319	10/23/2019	0.48	1	84	1	1400	1	1.3	1	7.5	1	350	1	2800	1
M-59	CH-CCR-M59-0520	5/7/2020	0.5	1	89	1	1200	1	1.8	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-1020	10/21/2020	0.48	1	85	1	1300	1	1.4	1	7.5	1	340	1	2700	1

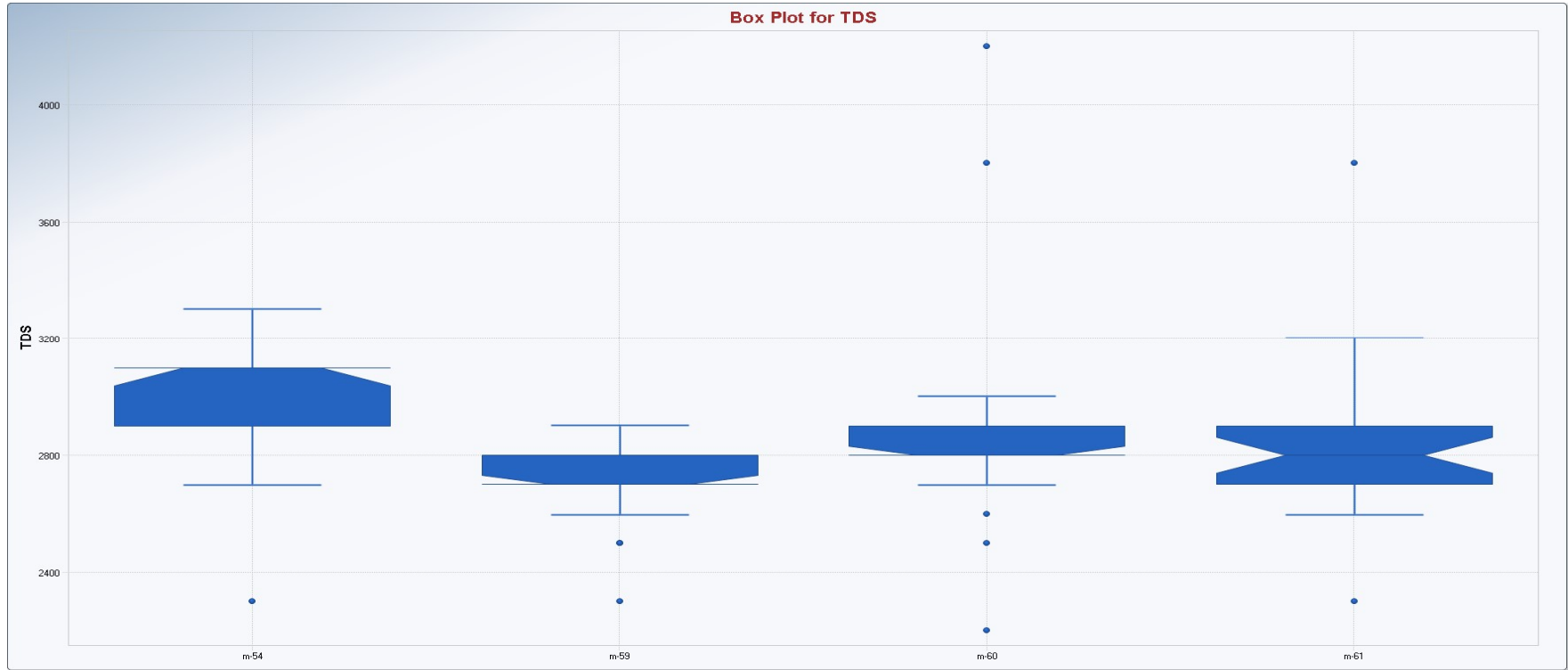
Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-59	CH-CCR-M59-0421	4/16/2021	0.49	1	87	1	1200	1	1.4	1	7.6	1	340	1	2800	1
M-59	CH-CCR-M59-1021	10/24/2021	0.49	1	84	1	1300	1	1.4	1	7.7	1	400	1	2300	1
M-59	CH-CCR-M59-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	360	1	2600	1
M-59	CH-CCR-M59-0522	5/13/2022	0.5	1	89	1	1200	1	1.4	1	7.9	1	350	1	2900	1
M-59	CH-CCR-M59-0822	8/30/2022	NA	NA	NA	NA	NA	NA	NA	NA	7.6	1	NA	NA	NA	NA
M-59	CH-CCR-M59-1022	10/19/2022	0.48	1	79	1	1200	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-0423	4/12/2023	0.51	1	93	1	1300	1	1.4	1	7.8	1	360	1	2800	1
M-60	7801	12/3/2015	0.54	1	88	1	1400	1	1.3	1	7.56	1	350	1	2800	1
M-60	CH-M-60A-0316	3/9/2016	0.5	1	86	1	1400	1	1.4	1	7.83	1	350	1	2800	1
M-60	CH-CCR-M60-516	5/20/2016	0.5	1	89	1	1400	1	1.5	1	NA	NA	350	1	2800	1
M-60	CH-CCR-M60-816	8/27/2016	0.52	1	90	1	1400	1	1.5	1	7.5	1	360	1	2800	1
M-60	CH-CCR-M60-916	9/22/2016	0.51	1	88	1	1300	1	1.5	1	7.8	1	350	1	3000	1
M-60	CH-CCR-M60-217	2/22/2017	0.52	1	91	1	1300	1	1.4	1	7.8	1	340	1	2800	1
M-60	CH-CCR-M60-41117	4/11/2017	0.48	1	90	1	1400	1	1.4	1	8	1	360	1	2900	1
M-60	CH-CCR-M60-42417	4/24/2017	0.53	1	86	1	1400	1	1.4	1	7.8	1	350	1	2700	1
M-60	CH-CCR-M60-51917	5/19/2017	0.53	1	92	1	1400	1	1.4	1	7.7	1	360	1	2800	1
M-60	CH-CCR-M60-52517	5/25/2017	0.51	1	86	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-62917	6/29/2017	0.51	1	84	1	1500	1	1.5	1	7.7	1	440	1	2500	1
M-60	CH-CCR-M60-72917	7/29/2017	0.53	1	89	1	1400	1	1.5	1	7.6	1	370	1	2800	1
M-60	CH-CCR-M60-90517	9/5/2017	0.53	1	90	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-120717	12/7/2017	0.5	1	85	1	1500	1	1.4	1	7.6	1	360	1	2900	1
M-60	CH-CCR-M-60-52518	5/25/2018	0.5	1	83	1	1400	1	1.5	1	7.5	1	350	1	2800	1
M-60	CH-CCR-M-60-102618	10/26/2018	0.49	1	88	1	1400	1	1.4	1	7.7	1	350	1	2600	1
M-60	CH-CCR-M60-40919	4/9/2019	0.51	1	84	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-102219	10/22/2019	0.5	1	85	1	1400	1	1.4	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-0520	5/7/2020	0.5	1	88	1	1200	1	1.7	1	7.7	1	350	1	2900	1
M-60	CH-CCR-M60-1020	10/21/2020	0.48	1	82	1	1400	1	1.4	1	7.5	1	340	1	2900	1
M-60	CH-CCR-M60-0421	4/16/2021	0.49	1	85	1	1300	1	1.5	1	7.8	1	340	1	4200	1
M-60	CH-CCR-M60-0721	7/7/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2700	1
M-60	CH-CCR-M60-1021	10/24/2021	0.49	1	85	1	1300	1	1.5	1	7.6	1	450	1	2900	1
M-60	CH-CCR-M60-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2200	1
M-60	CH-CCR-M60-0522	5/13/2022	0.5	1	87	1	1400	1	1.4	1	7.8	1	360	1	3800	1
M-60	CH-CCR-M60-0822	8/31/2022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2900	1
M-60	CH-CCR-M60-1022	10/20/2022	0.48	1	80	1	1300	1	1.5	1	7.5	1	400	1	2700	1
M-60	CH-CCR-M60-0123	1/26/2023	NA	NA	NA	A	1400	1	1.5	1	NA	NA	380	1	NA	NA
M-60	CH-CCR-M60-0523	5/10/2023	0.51	1	79	1	1400	1	1.4	1	7.7	1	370	1	2800	1
M-61	7802	12/3/2015	0.51	1	90	1	1400	1	1.3	1	7.22	1	350	1	2800	1
M-61	CH-M-61-0316	3/10/2016	0.49	1	90	1	1400	1	1.4	1	7.59	1	340	1	2800	1
M-61	CH-CCR-M61-516	5/20/2016	0.49	1	89	1	1400	1	1.4	1	NA	NA	350	1	2800	1
M-61	CH-CCR-M61-816	8/27/2016	0.5	1	90	1	1400	1	1.5	1	7.5	1	360	1	2900	1
M-61	CH-CCR-M61-916	9/22/2016	0.5	1	90	1	1300	1	1.5	1	7.9	1	350	1	3000	1
M-61	CH-CCR-M61-217	2/22/2017	0.5	1	92	1	1100	1	1.4	1	7.8	1	340	1	2700	1
M-61	CH-CCR-W61-217	2/22/2017	NA	NA	NA	NA	NA	NA	1.5	1	NA	NA	NA	NA	NA	NA
M-61	CH-CCR-M61-41117	4/11/2017	0.5	1	93	1	1700	1	1.3	1	8	1	420	1	3000	1
M-61	CH-CCR-M61-42417	4/24/2017	0.52	1	88	1	1400	1	1.4	1	7.7	1	360	1	2700	1
M-61	CH-CCR-M61-51917	5/19/2017	0.5	1	92	1	1400	1	1.3	1	7.8	1	370	1	2800	1
M-61	CH-CCR-M61-52517	5/25/2017	0.51	1	92	1	1400	1	1.4	1	7.7	1	370	1	2800	1
M-61	CH-CCR-M61-62917	6/29/2017	0.5	1	86	1	1500	1	1.5	1	7.8	1	380	1	2700	1

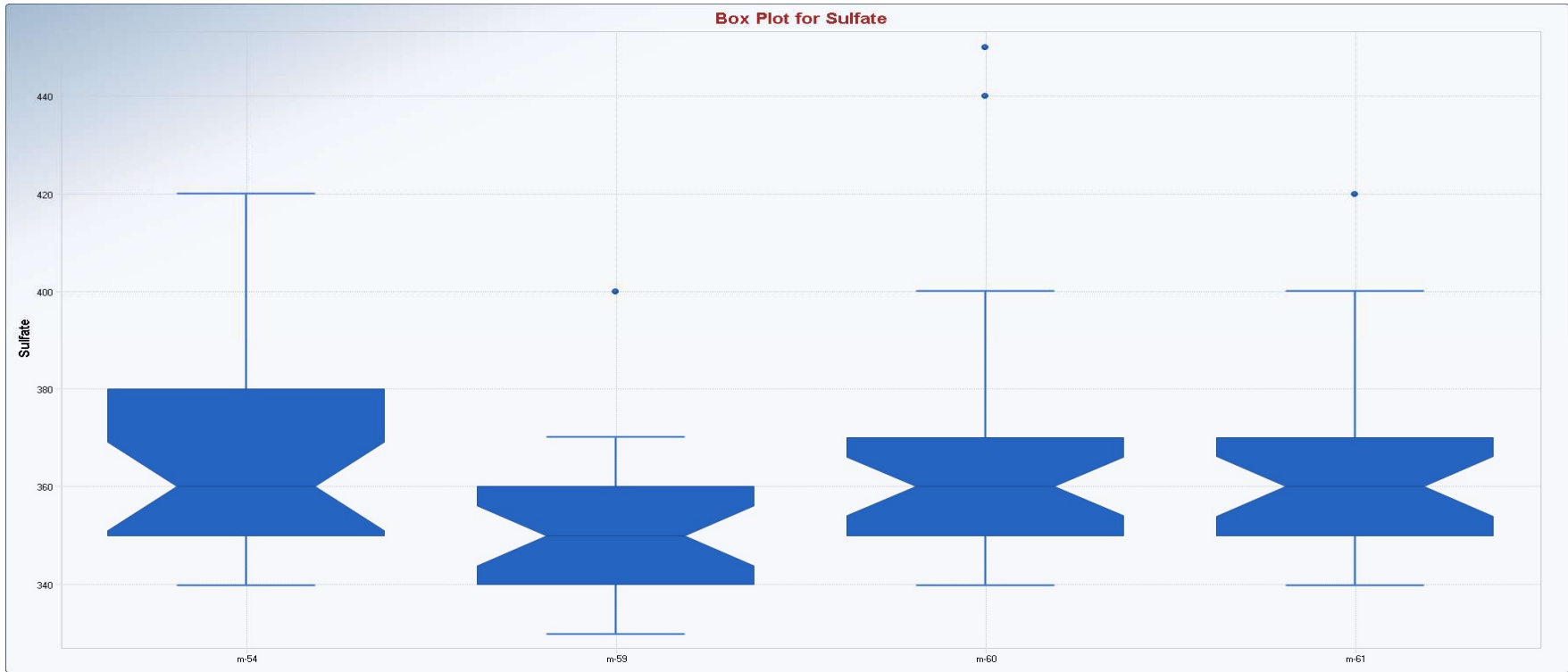
Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-61	CH-CCR-M61-72917	7/29/2017	0.52	1	94	1	1300	1	1.5	1	7.6	1	360	1	2900	1
M-61	CH-CCR-M61-90517	9/5/2017	0.5	1	91	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-61	CH-CCR-M61-120717	12/7/2017	0.49	1	88	1	1500	1	1.4	1	7.6	1	360	1	2900	1
M-61	CH-CCR-M-61-52518	5/25/2018	0.48	1	87	1	1400	1	1.5	1	7.5	1	390	1	2800	1
M-61	CH-CCR-M-61-102618	10/26/2018	0.48	1	91	1	1400	1	1.4	1	7.5	1	360	1	2600	1
M-61	CH-CCR-M61-40919	4/9/2019	0.5	1	88	1	1300	1	1.4	1	7.7	1	340	1	2800	1
M-61	CH-CCR-M61-102219	10/22/2019	0.48	1	87	1	1400	1	1.4	1	7.8	1	350	1	2700	1
M-61	CH-CCR-M61-0520	5/7/2020	0.51	1	93	1	1300	1	1.6	1	7.7	1	350	1	3000	1
M-61	CH-CCR-M61-1020	10/21/2020	0.48	1	88	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-61	CH-CCR-M61-0421	4/16/2021	0.49	1	91	1	1300	1	1.5	1	7.8	1	340	1	2900	1
M-61	CH-CCR-M61-1021	10/24/2021	0.48	1	88	1	1400	1	1.4	1	7.6	1	400	1	3200	1
M-61	CH-CCR-M61-1121	11/19/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	370	1	2300	1

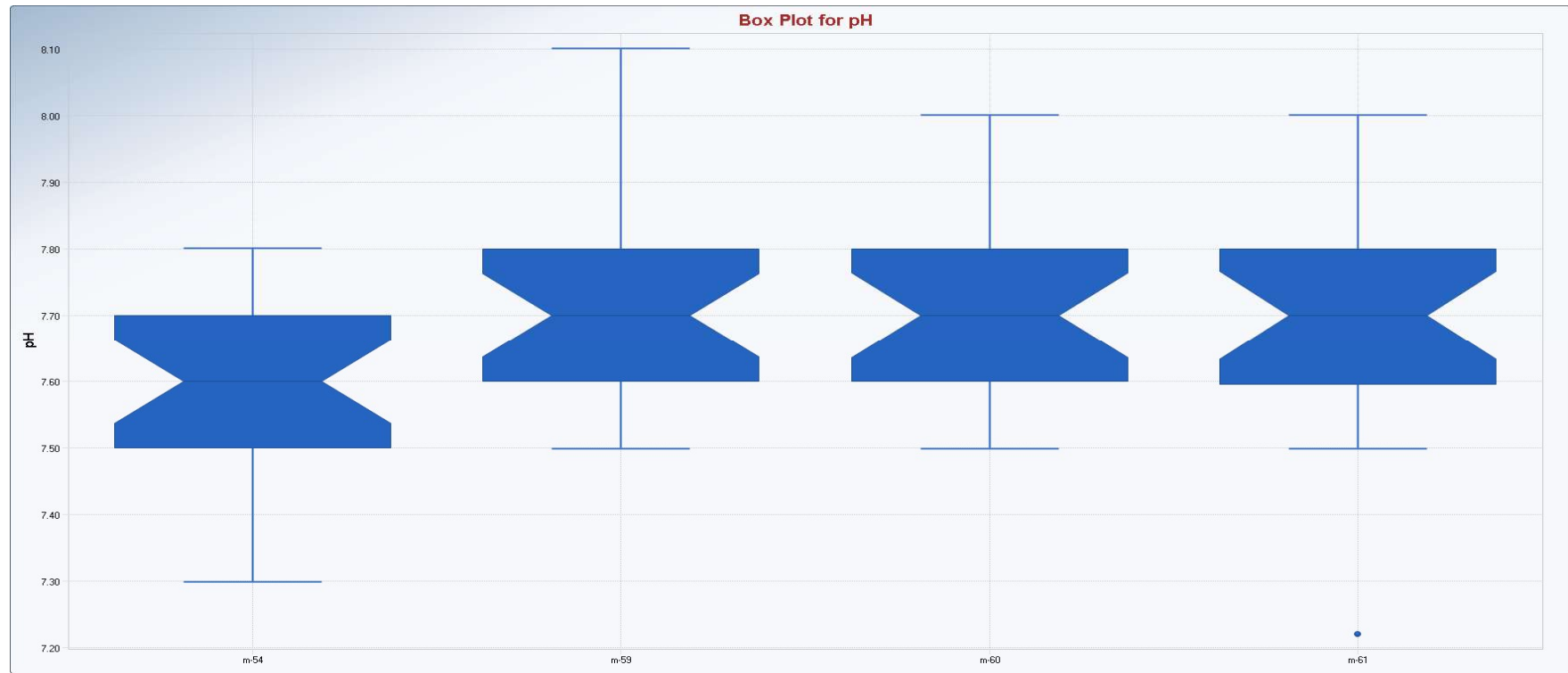
Appendix B Box and Whisker Plots



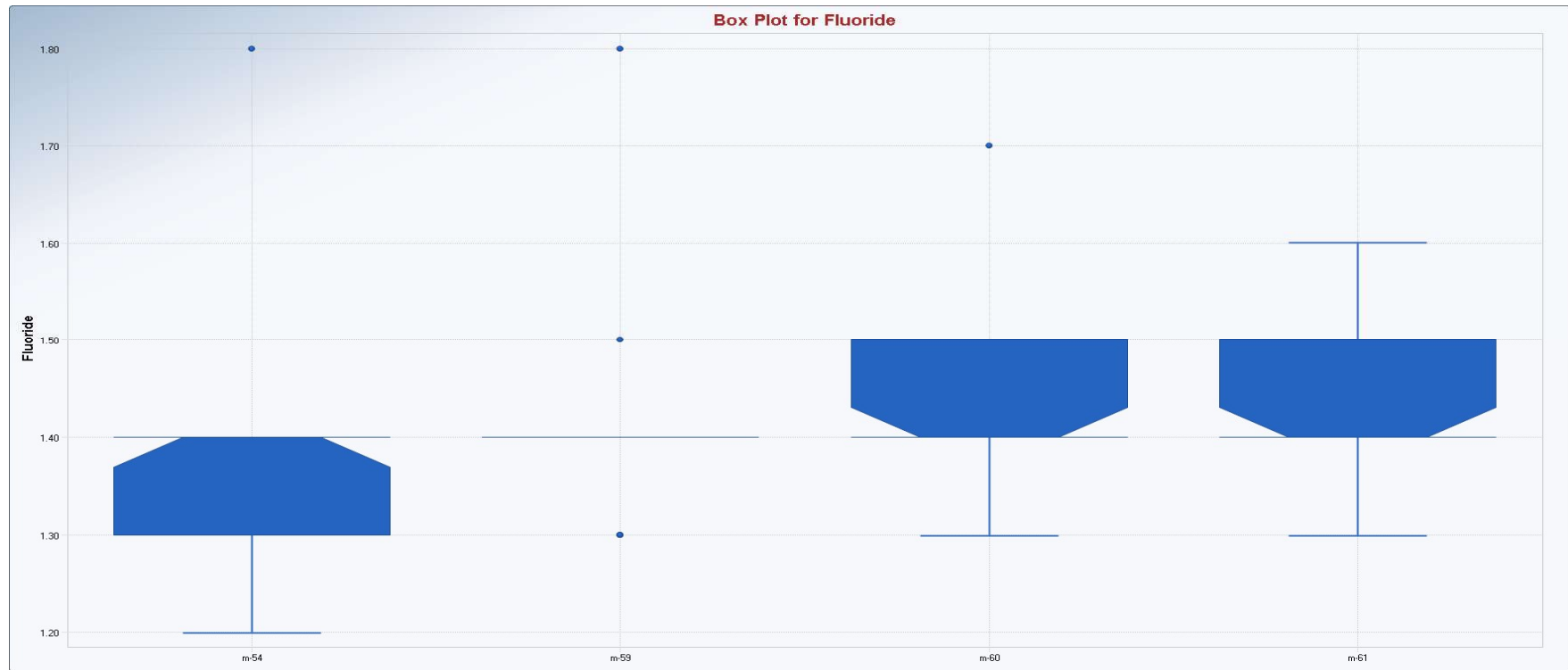
Appendix B Box and Whisker Plots



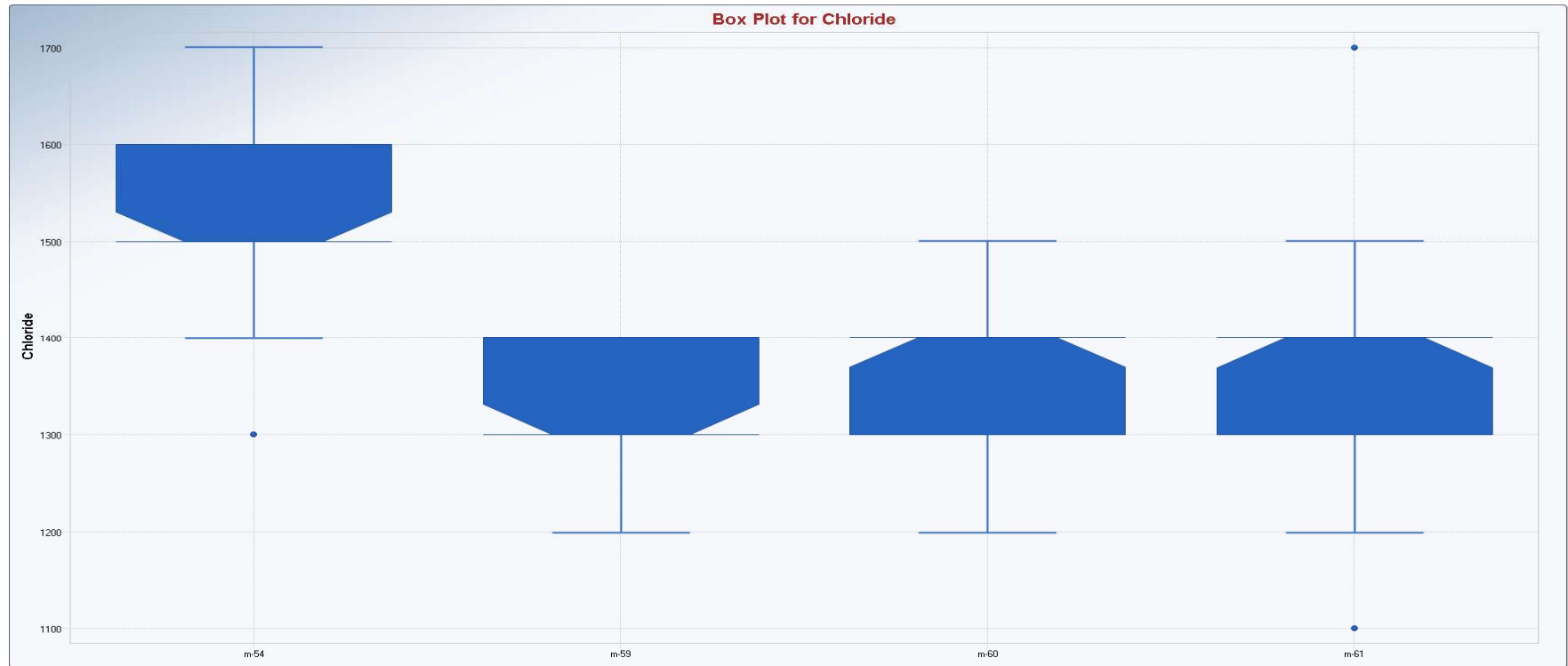
Appendix B Box and Whisker Plots



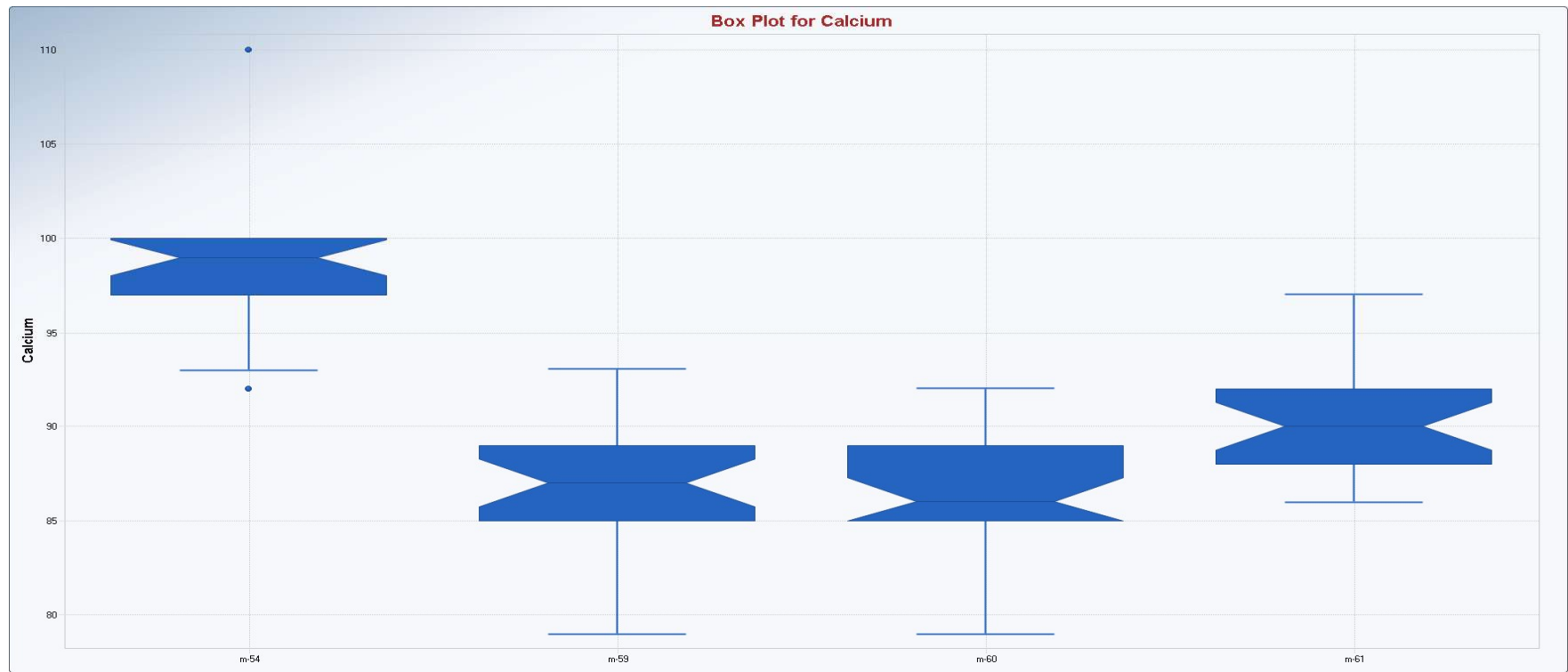
Appendix B Box and Whisker Plots



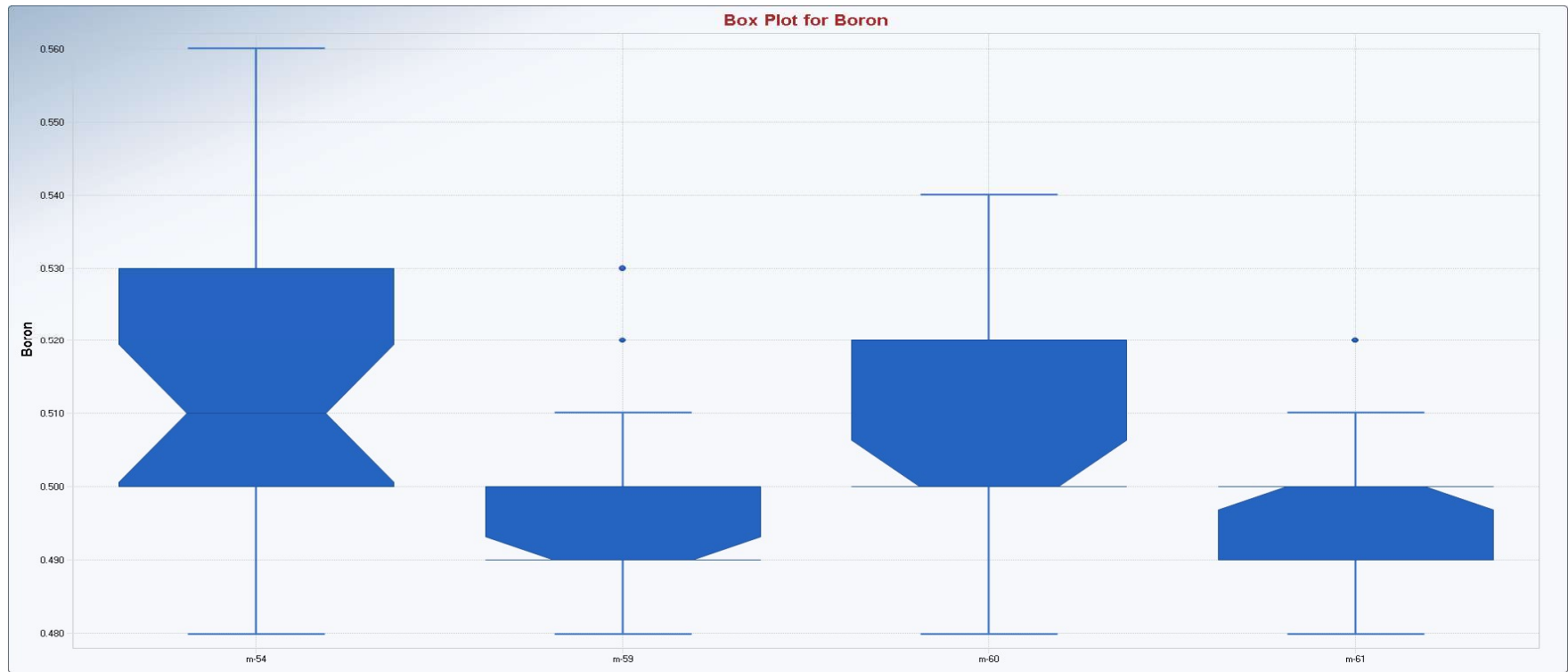
Appendix B Box and Whisker Plots



Appendix B Box and Whisker Plots



Appendix B Box and Whisker Plots



Appendix B Goodness of Fit Statistics

User Selected Options		Goodness-of-Fit Test Statistics for Data Sets with Non-Detects					
Date/Time of Computation	ProUCL 5.16/30/2023 5:11:15 PM						
From File	ProUCLUpload_Cholla_BAM_20230630.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Boron (m-54)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	8						
Minimum	0.48						
Maximum	0.56						
Mean of Raw Data	0.515						
Standard Deviation of Raw Data	0.0181						
Khat	856.2						
Theta hat	6.0170E-4						
Kstar	753.5						
Theta star	6.8372E-4						
Mean of Log Transformed Data	-0.664						
Standard Deviation of Log Transformed Data	0.0348						
Normal GOF Test Results							
Correlation Coefficient R	0.971						
Shapiro Wilk Test Statistic	0.949						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.248						
Lilliefors Test Statistic	0.133						
Lilliefors Critical (0.05) Value	0.173						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.973						
A-D Test Statistic	0.554						
A-D Critical (0.05) Value	0.742						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
K-S Test Statistic	0.132						
K-S Critical(0.05) Value	0.174						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.973						
Shapiro Wilk Test Statistic	0.953						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.317						
Lilliefors Test Statistic	0.128						
Lilliefors Critical (0.05) Value	0.173						
Data appear Lognormal at (0.05) Significance Level							
Boron (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	6						
Minimum	0.48						
Maximum	0.53						
Mean of Raw Data	0.495						
Standard Deviation of Raw Data	0.0129						
Khat	1544						
Theta hat	3.2072E-4						
Kstar	1359						
Theta star	3.6445E-4						
Mean of Log Transformed Data	-0.703						
Standard Deviation of Log Transformed Data	0.0259						
Normal GOF Test Results							
Correlation Coefficient R	0.942						
Shapiro Wilk Test Statistic	0.885						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.00834						
Lilliefors Test Statistic	0.195						
Lilliefors Critical (0.05) Value	0.173						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25					
Data not Normal at (0.05) Significance Level						
Gamma GOF Test Results						
Correlation Coefficient R	0.945					
A-D Test Statistic	0.999					
A-D Critical (0.05) Value	0.742					
K-S Test Statistic	0.189					
K-S Critical(0.05) Value	0.174					
Data not Gamma Distributed at (0.05) Significance Level						
Lognormal GOF Test Results						
Correlation Coefficient R	0.945					
Shapiro Wilk Test Statistic	0.89					
Shapiro Wilk Critical (0.05) Value	0.918					
Approximate Shapiro Wilk P Value	0.0105					
Lilliefors Test Statistic	0.19					
Lilliefors Critical (0.05) Value	0.173					
Data not Lognormal at (0.05) Significance Level						
Non-parametric GOF Test Results						
Data do not follow a discernible distribution at (0.05) Level of Significance						
Boron (m-60)						
Raw Statistics						
Number of Valid Observations	25					
Number of Missing Observations	4					
Number of Distinct Observations	7					
Minimum	0.48					
Maximum	0.54					
Mean of Raw Data	0.506					
Standard Deviation of Raw Data	0.017					
Khat	922.5					
Theta hat	5.4893E-4					
Kstar	811.9					
Theta star	6.2376E-4					

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Mean of Log Transformed Data	-0.681						
Standard Deviation of Log Transformed Data	0.0336						
Normal GOF Test Results							
Correlation Coefficient R	0.975						
Shapiro Wilk Test Statistic	0.938						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.145						
Lilliefors Test Statistic	0.166						
Lilliefors Critical (0.05) Value	0.173						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.974						
A-D Test Statistic	0.602						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.166						
K-S Critical(0.05) Value	0.174						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.976						
Shapiro Wilk Test Statistic	0.94						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.156						
Lilliefors Test Statistic	0.162						
Lilliefors Critical (0.05) Value	0.173						
Data appear Lognormal at (0.05) Significance Level							
Boron (m-61)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	5						
Minimum	0.48						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Maximum	0.52						
Mean of Raw Data	0.497						
Standard Deviation of Raw Data	0.0122						
Khat	1746						
Theta hat	2.8454E-4						
Kstar	1536						
Theta star	3.2334E-4						
Mean of Log Transformed Data	-0.7						
Standard Deviation of Log Transformed Data	0.0244						
Normal GOF Test Results							
Correlation Coefficient R	0.963						
Shapiro Wilk Test Statistic	0.912						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.0352						
Lilliefors Test Statistic	0.164						
Lilliefors Critical (0.05) Value	0.173						
Data appear Approximate Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.962						
A-D Test Statistic	0.837						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.169						
K-S Critical(0.05) Value	0.174						
Data follow Appr. Gamma Distribution at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.963						
Shapiro Wilk Test Statistic	0.913						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.0359						
Lilliefors Test Statistic	0.168						
Lilliefors Critical (0.05) Value	0.173						
Data appear Approximate_Lognormal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Calcium (m-54)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	9						
Minimum	92						
Maximum	110						
Mean of Raw Data	98.56						
Standard Deviation of Raw Data	3.367						
Khat	910.6						
Theta hat	0.108						
Kstar	801.3						
Theta star	0.123						
Mean of Log Transformed Data	4.59						
Standard Deviation of Log Transformed Data	0.0337						
Normal GOF Test Results							
Correlation Coefficient R	0.887						
Shapiro Wilk Test Statistic	0.815						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	2.6174E-4						
Lilliefors Test Statistic	0.294						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.891						
A-D Test Statistic	1.594						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.286						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.895						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Shapiro Wilk Test Statistic	0.829						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	4.9805E-4						
Lilliefors Test Statistic	0.287						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Calcium (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	10						
Minimum	79						
Maximum	93						
Mean of Raw Data	87.28						
Standard Deviation of Raw Data	3.156						
Khat	790.6						
Theta hat	0.11						
Kstar	695.8						
Theta star	0.125						
Mean of Log Transformed Data	4.468						
Standard Deviation of Log Transformed Data	0.0364						
Normal GOF Test Results							
Correlation Coefficient R	0.976						
Shapiro Wilk Test Statistic	0.959						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.409						
Lilliefors Test Statistic	0.109						
Lilliefors Critical (0.05) Value	0.173						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Correlation Coefficient R	0.976						
A-D Test Statistic	0.349						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.105						
K-S Critical(0.05) Value	0.174						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.973						
Shapiro Wilk Test Statistic	0.955						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.339						
Lilliefors Test Statistic	0.11						
Lilliefors Critical (0.05) Value	0.173						
Data appear Lognormal at (0.05) Significance Level							
Calcium (m-60)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	4						
Number of Distinct Observations	13						
Minimum	79						
Maximum	92						
Mean of Raw Data	86.4						
Standard Deviation of Raw Data	3.304						
Khat	703.5						
Theta hat	0.123						
Kstar	619.1						
Theta star	0.14						
Mean of Log Transformed Data	4.458						
Standard Deviation of Log Transformed Data	0.0386						
Normal GOF Test Results							
Correlation Coefficient R	0.986						
Shapiro Wilk Test Statistic	0.967						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.594						
Lilliefors Test Statistic	0.126						
Lilliefors Critical (0.05) Value	0.173						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.984						
A-D Test Statistic	0.319						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.132						
K-S Critical(0.05) Value	0.174						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.983						
Shapiro Wilk Test Statistic	0.962						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.475						
Lilliefors Test Statistic	0.129						
Lilliefors Critical (0.05) Value	0.173						
Data appear Lognormal at (0.05) Significance Level							
Calcium (m-61)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	3						
Number of Distinct Observations	10						
Minimum	86						
Maximum	97						
Mean of Raw Data	90.04						
Standard Deviation of Raw Data	2.653						
Khat	1211						
Theta hat	0.0743						
Kstar	1066						
Theta star	0.0845						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Mean of Log Transformed Data	4.5						
Standard Deviation of Log Transformed Data	0.0293						
Normal GOF Test Results							
Correlation Coefficient R	0.977						
Shapiro Wilk Test Statistic	0.955						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.349						
Lilliefors Test Statistic	0.139						
Lilliefors Critical (0.05) Value	0.173						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.979						
A-D Test Statistic	0.362						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.144						
K-S Critical(0.05) Value	0.174						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.98						
Shapiro Wilk Test Statistic	0.959						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.423						
Lilliefors Test Statistic	0.139						
Lilliefors Critical (0.05) Value	0.173						
Data appear Lognormal at (0.05) Significance Level							
Chloride (m-54)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	2						
Number of Distinct Observations	5						
Minimum	1300						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Maximum	1700						
Mean of Raw Data	1508						
Standard Deviation of Raw Data	84.49						
Khat	327.9						
Theta hat	4.599						
Kstar	290.1						
Theta star	5.198						
Mean of Log Transformed Data	7.317						
Standard Deviation of Log Transformed Data	0.0565						
Normal GOF Test Results							
Correlation Coefficient R	0.931						
Shapiro Wilk Test Statistic	0.88						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	0.00533						
Lilliefors Test Statistic	0.271						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.932						
A-D Test Statistic	1.787						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.278						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.928						
Shapiro Wilk Test Statistic	0.876						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	0.00433						
Lilliefors Test Statistic	0.282						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25				
Non-parametric GOF Test Results					
Data do not follow a discernible distribution at (0.05) Level of Significance					
Chloride (m-59)					
Raw Statistics					
Number of Valid Observations	25				
Number of Missing Observations	2				
Number of Distinct Observations	3				
Minimum	1200				
Maximum	1400				
Mean of Raw Data	1316				
Standard Deviation of Raw Data	80				
Khat	278				
Theta hat	4.734				
Kstar	244.7				
Theta star	5.379				
Mean of Log Transformed Data	7.181				
Standard Deviation of Log Transformed Data	0.0615				
Normal GOF Test Results					
Correlation Coefficient R	0.904				
Shapiro Wilk Test Statistic	0.793				
Shapiro Wilk Critical (0.05) Value	0.918				
Approximate Shapiro Wilk P Value	9.8427E-5				
Lilliefors Test Statistic	0.253				
Lilliefors Critical (0.05) Value	0.173				
Data not Normal at (0.05) Significance Level					
Gamma GOF Test Results					
Correlation Coefficient R	0.897				
A-D Test Statistic	2.107				
A-D Critical (0.05) Value	0.742				
K-S Test Statistic	0.256				
K-S Critical(0.05) Value	0.174				
Data not Gamma Distributed at (0.05) Significance Level					

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Lognormal GOF Test Results							
Correlation Coefficient R	0.903						
Shapiro Wilk Test Statistic	0.792						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	9.2920E-5						
Lilliefors Test Statistic	0.25						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Chloride (m-60)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	3						
Number of Distinct Observations	4						
Minimum	1200						
Maximum	1500						
Mean of Raw Data	1373						
Standard Deviation of Raw Data	66.68						
Khat	432.8						
Theta hat	3.173						
Kstar	382.9						
Theta star	3.586						
Mean of Log Transformed Data	7.224						
Standard Deviation of Log Transformed Data	0.0493						
Normal GOF Test Results							
Correlation Coefficient R	0.887						
Shapiro Wilk Test Statistic	0.799						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	9.3838E-5						
Lilliefors Test Statistic	0.349						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25								
Lilliefors Critical (0.05) Value	0.17								
Data not Normal at (0.05) Significance Level									
Gamma GOF Test Results									
Correlation Coefficient R	0.886								
A-D Test Statistic	2.905								
A-D Critical (0.05) Value	0.742								
K-S Test Statistic	0.356								
K-S Critical(0.05) Value	0.171								
Data not Gamma Distributed at (0.05) Significance Level									
Lognormal GOF Test Results									
Correlation Coefficient R	0.884								
Shapiro Wilk Test Statistic	0.794								
Shapiro Wilk Critical (0.05) Value	0.92								
Approximate Shapiro Wilk P Value	7.6746E-5								
Lilliefors Test Statistic	0.354								
Lilliefors Critical (0.05) Value	0.17								
Data not Lognormal at (0.05) Significance Level									
Non-parametric GOF Test Results									
Data do not follow a discernible distribution at (0.05) Level of Significance									
Chloride (m-61)									
Raw Statistics									
Number of Valid Observations	25								
Number of Missing Observations	3								
Number of Distinct Observations	6								
Minimum	1100								
Maximum	1700								
Mean of Raw Data	1376								
Standard Deviation of Raw Data	109.1								
Khat	165.7								
Theta hat	8.306								
Kstar	145.8								

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Theta star	9.437						
Mean of Log Transformed Data	7.224						
Standard Deviation of Log Transformed Data	0.0795						
Normal GOF Test Results							
Correlation Coefficient R	0.897						
Shapiro Wilk Test Statistic	0.835						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	6.5992E-4						
Lilliefors Test Statistic	0.293						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.901						
A-D Test Statistic	2.013						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.282						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.899						
Shapiro Wilk Test Statistic	0.838						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	7.7322E-4						
Lilliefors Test Statistic	0.281						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-54)							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	2						
Number of Distinct Observations	4						
Minimum	1.2						
Maximum	1.8						
Mean of Raw Data	1.373						
Standard Deviation of Raw Data	0.108						
Khat	183.6						
Theta hat	0.00748						
Kstar	162.4						
Theta star	0.00845						
Mean of Log Transformed Data	0.314						
Standard Deviation of Log Transformed Data	0.0739						
Normal GOF Test Results							
Correlation Coefficient R	0.792						
Shapiro Wilk Test Statistic	0.662						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	3.3349E-7						
Lilliefors Test Statistic	0.363						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.801						
A-D Test Statistic	3.035						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.348						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.819						
Shapiro Wilk Test Statistic	0.704						
Shapiro Wilk Critical (0.05) Value	0.92						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Approximate Shapiro Wilk P Value	1.6687E-6						
Lilliefors Test Statistic	0.344						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.8						
Mean of Raw Data	1.404						
Standard Deviation of Raw Data	0.0978						
Khat	238						
Theta hat	0.0059						
Kstar	209.4						
Theta star	0.0067						
Mean of Log Transformed Data	0.337						
Standard Deviation of Log Transformed Data	0.0646						
Normal GOF Test Results							
Correlation Coefficient R	0.763						
Shapiro Wilk Test Statistic	0.611						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	8.4877E-8						
Lilliefors Test Statistic	0.396						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.777						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
A-D Test Statistic	3.517						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.389						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.787						
Shapiro Wilk Test Statistic	0.647						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	3.0016E-7						
Lilliefors Test Statistic	0.385						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-60)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	3						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.7						
Mean of Raw Data	1.45						
Standard Deviation of Raw Data	0.0762						
Khat	389.3						
Theta hat	0.00372						
Kstar	344.4						
Theta star	0.00421						
Mean of Log Transformed Data	0.37						
Standard Deviation of Log Transformed Data	0.0513						
Normal GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Correlation Coefficient R	0.863						
Shapiro Wilk Test Statistic	0.772						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	2.9166E-5						
Lilliefors Test Statistic	0.283						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.87						
A-D Test Statistic	2.564						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.287						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.872						
Shapiro Wilk Test Statistic	0.786						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	5.3726E-5						
Lilliefors Test Statistic	0.283						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-61)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	2						
Number of Distinct Observations	4						
Minimum	1.3						
Maximum	1.6						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Mean of Raw Data	1.431						
Standard Deviation of Raw Data	0.0736						
Khat	393						
Theta hat	0.00364						
Kstar	347.6						
Theta star	0.00412						
Mean of Log Transformed Data	0.357						
Standard Deviation of Log Transformed Data	0.0515						
Normal GOF Test Results							
Correlation Coefficient R	0.919						
Shapiro Wilk Test Statistic	0.848						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	9.9194E-4						
Lilliefors Test Statistic	0.277						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.92						
A-D Test Statistic	2.076						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.275						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.919						
Shapiro Wilk Test Statistic	0.847						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	9.4948E-4						
Lilliefors Test Statistic	0.27						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25				
Data do not follow a discernible distribution at (0.05) Level of Significance					
pH (m-54)					
Raw Statistics					
Number of Valid Observations	25				
Number of Missing Observations	3				
Number of Distinct Observations	8				
Minimum	7.3				
Maximum	7.8				
Mean of Raw Data	7.576				
Standard Deviation of Raw Data	0.136				
Khat	3213				
Theta hat	0.00236				
Kstar	2828				
Theta star	0.00268				
Mean of Log Transformed Data	2.025				
Standard Deviation of Log Transformed Data	0.018				
Normal GOF Test Results					
Correlation Coefficient R	0.975				
Shapiro Wilk Test Statistic	0.941				
Shapiro Wilk Critical (0.05) Value	0.918				
Approximate Shapiro Wilk P Value	0.171				
Lilliefors Test Statistic	0.17				
Lilliefors Critical (0.05) Value	0.173				
Data appear Normal at (0.05) Significance Level					
Gamma GOF Test Results					
Correlation Coefficient R	0.973				
A-D Test Statistic	0.637				
A-D Critical (0.05) Value	0.742				
K-S Test Statistic	0.173				
K-S Critical(0.05) Value	0.174				
Data appear Gamma Distributed at (0.05) Significance Level					

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Lognormal GOF Test Results							
Correlation Coefficient R	0.974						
Shapiro Wilk Test Statistic	0.94						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.159						
Lilliefors Test Statistic	0.173						
Lilliefors Critical (0.05) Value	0.173						
Data appear Approximate_Lognormal at (0.05) Significance Level							
pH (m-59)							
Raw Statistics							
Number of Valid Observations	25						
Number of Missing Observations	2						
Number of Distinct Observations	8						
Minimum	7.5						
Maximum	8.1						
Mean of Raw Data	7.688						
Standard Deviation of Raw Data	0.148						
Khat	2859						
Theta hat	0.00269						
Kstar	2516						
Theta star	0.00306						
Mean of Log Transformed Data	2.039						
Standard Deviation of Log Transformed Data	0.019						
Normal GOF Test Results							
Correlation Coefficient R	0.953						
Shapiro Wilk Test Statistic	0.909						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.0301						
Lilliefors Test Statistic	0.205						
Lilliefors Critical (0.05) Value	0.173						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Correlation Coefficient R	0.955						
A-D Test Statistic	0.805						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.215						
K-S Critical(0.05) Value	0.174						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.956						
Shapiro Wilk Test Statistic	0.913						
Shapiro Wilk Critical (0.05) Value	0.918						
Approximate Shapiro Wilk P Value	0.0374						
Lilliefors Test Statistic	0.204						
Lilliefors Critical (0.05) Value	0.173						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
pH (m-60)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	5						
Number of Distinct Observations	7						
Minimum	7.5						
Maximum	8						
Mean of Raw Data	7.679						
Standard Deviation of Raw Data	0.128						
Khat	3782						
Theta hat	0.00203						
Kstar	3309						
Theta star	0.00232						
Mean of Log Transformed Data	2.038						
Standard Deviation of Log Transformed Data	0.0166						
Normal GOF Test Results							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Correlation Coefficient R	0.963						
Shapiro Wilk Test Statistic	0.925						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.0758						
Lilliefors Test Statistic	0.149						
Lilliefors Critical (0.05) Value	0.177						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.963						
A-D Test Statistic	0.73						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.163						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.964						
Shapiro Wilk Test Statistic	0.926						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.0812						
Lilliefors Test Statistic	0.153						
Lilliefors Critical (0.05) Value	0.177						
Data appear Lognormal at (0.05) Significance Level							
pH (m-61)							
Raw Statistics							
Number of Valid Observations	24						
Number of Missing Observations	4						
Number of Distinct Observations	8						
Minimum	7.22						
Maximum	8						
Mean of Raw Data	7.667						
Standard Deviation of Raw Data	0.164						
Khat	2272						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Theta hat	0.00337						
Kstar	1988						
Theta star	0.00386						
Mean of Log Transformed Data	2.037						
Standard Deviation of Log Transformed Data	0.0215						
Normal GOF Test Results							
Correlation Coefficient R	0.964						
Shapiro Wilk Test Statistic	0.943						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.196						
Lilliefors Test Statistic	0.125						
Lilliefors Critical (0.05) Value	0.177						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.965						
A-D Test Statistic	0.585						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.13						
K-S Critical(0.05) Value	0.177						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.961						
Shapiro Wilk Test Statistic	0.939						
Shapiro Wilk Critical (0.05) Value	0.916						
Approximate Shapiro Wilk P Value	0.16						
Lilliefors Test Statistic	0.125						
Lilliefors Critical (0.05) Value	0.177						
Data appear Lognormal at (0.05) Significance Level							
Sulfate (m-54)							
Raw Statistics							
Number of Valid Observations	27						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Number of Missing Observations	1						
Number of Distinct Observations	8						
Minimum	340						
Maximum	420						
Mean of Raw Data	368.1						
Standard Deviation of Raw Data	20.39						
Khat	352.2						
Theta hat	1.045						
Kstar	313.1						
Theta star	1.176						
Mean of Log Transformed Data	5.907						
Standard Deviation of Log Transformed Data	0.0538						
Normal GOF Test Results							
Correlation Coefficient R	0.93						
Shapiro Wilk Test Statistic	0.863						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	0.00177						
Lilliefors Test Statistic	0.205						
Lilliefors Critical (0.05) Value	0.167						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.937						
A-D Test Statistic	1.167						
A-D Critical (0.05) Value	0.744						
K-S Test Statistic	0.196						
K-S Critical(0.05) Value	0.168						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.939						
Shapiro Wilk Test Statistic	0.879						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	0.00426						
Lilliefors Test Statistic	0.193						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Lilliefors Critical (0.05) Value	0.167						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Sulfate (m-59)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	1						
Number of Distinct Observations	6						
Minimum	330						
Maximum	400						
Mean of Raw Data	350.8						
Standard Deviation of Raw Data	13.83						
Khat	694.2						
Theta hat	0.505						
Kstar	614.1						
Theta star	0.571						
Mean of Log Transformed Data	5.859						
Standard Deviation of Log Transformed Data	0.0384						
Normal GOF Test Results							
Correlation Coefficient R	0.897						
Shapiro Wilk Test Statistic	0.827						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	3.5835E-4						
Lilliefors Test Statistic	0.253						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.905						
A-D Test Statistic	1.37						
A-D Critical (0.05) Value	0.742						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
K-S Test Statistic	0.249						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.909						
Shapiro Wilk Test Statistic	0.846						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	9.2541E-4						
Lilliefors Test Statistic	0.246						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Sulfate (m-60)							
Raw Statistics							
Number of Valid Observations	27						
Number of Missing Observations	2						
Number of Distinct Observations	8						
Minimum	340						
Maximum	450						
Mean of Raw Data	363.7						
Standard Deviation of Raw Data	26.77						
Khat	210.8						
Theta hat	1.726						
Kstar	187.4						
Theta star	1.941						
Mean of Log Transformed Data	5.894						
Standard Deviation of Log Transformed Data	0.0686						
Normal GOF Test Results							
Correlation Coefficient R	0.824						
Shapiro Wilk Test Statistic	0.688						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	5.8550E-7						
Lilliefors Test Statistic	0.296						
Lilliefors Critical (0.05) Value	0.167						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.84						
A-D Test Statistic	2.876						
A-D Critical (0.05) Value	0.744						
K-S Test Statistic	0.291						
K-S Critical(0.05) Value	0.168						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.842						
Shapiro Wilk Test Statistic	0.717						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	1.9090E-6						
Lilliefors Test Statistic	0.286						
Lilliefors Critical (0.05) Value	0.167						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Sulfate (m-61)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	2						
Number of Distinct Observations	8						
Minimum	340						
Maximum	420						
Mean of Raw Data	361.2						
Standard Deviation of Raw Data	19.04						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Khat	391.6						
Theta hat	0.922						
Kstar	346.4						
Theta star	1.042						
Mean of Log Transformed Data	5.888						
Standard Deviation of Log Transformed Data	0.051						
Normal GOF Test Results							
Correlation Coefficient R	0.914						
Shapiro Wilk Test Statistic	0.841						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	7.1226E-4						
Lilliefors Test Statistic	0.255						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.923						
A-D Test Statistic	1.311						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.249						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.925						
Shapiro Wilk Test Statistic	0.859						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	0.00174						
Lilliefors Test Statistic	0.246						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25				
TDS (m-54)					
Raw Statistics					
Number of Valid Observations	27				
Number of Missing Observations	1				
Number of Distinct Observations	7				
Minimum	2300				
Maximum	3300				
Mean of Raw Data	3011				
Standard Deviation of Raw Data	190.8				
Khat	235.1				
Theta hat	12.81				
Kstar	209				
Theta star	14.41				
Mean of Log Transformed Data	8.008				
Standard Deviation of Log Transformed Data	0.0682				
Normal GOF Test Results					
Correlation Coefficient R	0.883				
Shapiro Wilk Test Statistic	0.805				
Shapiro Wilk Critical (0.05) Value	0.923				
Approximate Shapiro Wilk P Value	9.5852E-5				
Lilliefors Test Statistic	0.206				
Lilliefors Critical (0.05) Value	0.167				
Data not Normal at (0.05) Significance Level					
Gamma GOF Test Results					
Correlation Coefficient R	0.877				
A-D Test Statistic	1.757				
A-D Critical (0.05) Value	0.744				
K-S Test Statistic	0.217				
K-S Critical(0.05) Value	0.168				
Data not Gamma Distributed at (0.05) Significance Level					
Lognormal GOF Test Results					

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Correlation Coefficient R	0.856						
Shapiro Wilk Test Statistic	0.761						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	1.2429E-5						
Lilliefors Test Statistic	0.227						
Lilliefors Critical (0.05) Value	0.167						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
TDS (m-59)							
Raw Statistics							
Number of Valid Observations	26						
Number of Missing Observations	1						
Number of Distinct Observations	6						
Minimum	2300						
Maximum	2900						
Mean of Raw Data	2712						
Standard Deviation of Raw Data	127.5						
Khat	448.1						
Theta hat	6.051						
Kstar	396.4						
Theta star	6.84						
Mean of Log Transformed Data	7.904						
Standard Deviation of Log Transformed Data	0.0488						
Normal GOF Test Results							
Correlation Coefficient R	0.899						
Shapiro Wilk Test Statistic	0.824						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	3.0235E-4						
Lilliefors Test Statistic	0.31						
Lilliefors Critical (0.05) Value	0.17						
Data not Normal at (0.05) Significance Level							

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Gamma GOF Test Results							
Correlation Coefficient R	0.896						
A-D Test Statistic	1.931						
A-D Critical (0.05) Value	0.742						
K-S Test Statistic	0.316						
K-S Critical(0.05) Value	0.171						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.887						
Shapiro Wilk Test Statistic	0.804						
Shapiro Wilk Critical (0.05) Value	0.92						
Approximate Shapiro Wilk P Value	1.1750E-4						
Lilliefors Test Statistic	0.32						
Lilliefors Critical (0.05) Value	0.17						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
TDS (m-60)							
Raw Statistics							
Number of Valid Observations	28						
Number of Missing Observations	1						
Number of Distinct Observations	9						
Minimum	2200						
Maximum	4200						
Mean of Raw Data	2864						
Standard Deviation of Raw Data	358.2						
Khat	76.71						
Theta hat	37.34						
Kstar	68.51						
Theta star	41.81						
Mean of Log Transformed Data	7.954						
Standard Deviation of Log Transformed Data	0.113						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Normal GOF Test Results							
Correlation Coefficient R	0.785						
Shapiro Wilk Test Statistic	0.651						
Shapiro Wilk Critical (0.05) Value	0.924						
Approximate Shapiro Wilk P Value	8.9073E-8						
Lilliefors Test Statistic	0.353						
Lilliefors Critical (0.05) Value	0.164						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.806						
A-D Test Statistic	3.711						
A-D Critical (0.05) Value	0.743						
K-S Test Statistic	0.335						
K-S Critical(0.05) Value	0.165						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.821						
Shapiro Wilk Test Statistic	0.71						
Shapiro Wilk Critical (0.05) Value	0.924						
Approximate Shapiro Wilk P Value	9.4150E-7						
Lilliefors Test Statistic	0.326						
Lilliefors Critical (0.05) Value	0.164						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
TDS (m-61)							
Raw Statistics							
Number of Valid Observations	27						
Number of Missing Observations	1						

Appendix B Goodness of Fit Statistics

Number of Valid Observations	25						
Number of Distinct Observations	8						
Minimum	2300						
Maximum	3800						
Mean of Raw Data	2852						
Standard Deviation of Raw Data	248.6						
Khat	147.5						
Theta hat	19.34						
Kstar	131.1						
Theta star	21.75						
Mean of Log Transformed Data	7.952						
Standard Deviation of Log Transformed Data	0.0826						
Normal GOF Test Results							
Correlation Coefficient R	0.863						
Shapiro Wilk Test Statistic	0.785						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	3.7328E-5						
Lilliefors Test Statistic	0.238						
Lilliefors Critical (0.05) Value	0.167						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.876						
A-D Test Statistic	1.76						
A-D Critical (0.05) Value	0.744						
K-S Test Statistic	0.223						
K-S Critical(0.05) Value	0.168						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.887						
Shapiro Wilk Test Statistic	0.827						
Shapiro Wilk Critical (0.05) Value	0.923						
Approximate Shapiro Wilk P Value	2.7776E-4						
Lilliefors Test Statistic	0.219						
Lilliefors Critical (0.05) Value	0.167						

Appendix B Outlier Statistics

User Selected Options		Outlier Tests for Selected Variables excluding nondetects						
Date/Time of Computation	ProUCL 5.16/30/2023 7:33:43 PM							
From File	ProUCLUpload_Cholla_BAM_20230630.xls							
Full Precision	OFF							
Rosner's Outlier Test for 1 Outliers in Boron (m-54)								
Total N	25							
Number NDs	0							
Number Detects	25							
Mean of Detects	0.515							
SD of Detects	0.0181							
Number of data	25							
Number of suspected outliers	1							
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	0.515	0.0177	0.56	12	2.532	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Boron (m-59)								
Total N	25							
Number NDs	0							
Number Detects	25							
Mean of Detects	0.495							
SD of Detects	0.0129							
Number of data	25							
Number of suspected outliers	1							
NDs not included in the following:								

Appendix B Outlier Statistics

Number NDs			0								
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)				
1	0.495	0.0127	0.53	12	2.743	2.82	3.14				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											
Rosner's Outlier Test for 1 Outliers in Boron (m-60)											
Total N			25								
Number NDs			0								
Number Detects			25								
Mean of Detects			0.506								
SD of Detects			0.017								
Number of data			25								
Number of suspected outliers			1								
NDs not included in the following:											
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)				
1	0.506	0.0167	0.54	1	2.011	2.82	3.14				
For 5% Significance Level, there is no Potential Outlier											
For 1% Significance Level, there is no Potential Outlier											
Rosner's Outlier Test for 1 Outliers in Boron (m-61)											
Total N			25								
Number NDs			0								
Number Detects			25								
Mean of Detects			0.497								
SD of Detects			0.0122								
Number of data			25								

Appendix B Outlier Statistics

Number NDs		0						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	0.497	0.0119	0.52	8	1.949	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Calcium (m-54)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		98.56						
SD of Detects		3.367						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	98.56	3.299	110	4	3.467	2.82	3.14	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 110 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Calcium (m-59)								
Total N		25						
Number NDs		0						

Appendix B Outlier Statistics

Number NDs		0						
Number Detects		25						
Mean of Detects		87.28						
SD of Detects		3.156						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	87.28	3.092	79	24	2.678	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Calcium (m-60)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		86.4						
SD of Detects		3.304						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	86.4	3.237	79	25	2.286	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Calcium (m-61)								

Appendix B Outlier Statistics

Number NDs		0							
Total N		25							
Number NDs		0							
Number Detects		25							
Mean of Detects		90.04							
SD of Detects		2.653							
Number of data		25							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	90.04	2.6	97	25	2.677	2.82	3.14		
For 5% Significance Level, there is no Potential Outlier									
For 1% Significance Level, there is no Potential Outlier									
Rosner's Outlier Test for 1 Outliers in Chloride (m-54)									
Total N		26							
Number NDs		0							
Number Detects		26							
Mean of Detects		1508							
SD of Detects		84.49							
Number of data		26							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	1508	82.85	1300	6	2.507	2.84	3.16		
For 5% Significance Level, there is no Potential Outlier									
For 1% Significance Level, there is no Potential Outlier									

Appendix B Outlier Statistics

Number NDs		0						
Rosner's Outlier Test for 1 Outliers in Chloride (m-59)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		1316						
SD of Detects		80						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1316	78.38	1200	6	1.48	2.82	3.14	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Chloride (m-60)								
Total N		26						
Number NDs		0						
Number Detects		26						
Mean of Detects		1373						
SD of Detects		66.68						
Number of data		26						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1373	65.38	1200	19	2.647	2.84	3.16	
For 5% Significance Level, there is no Potential Outlier								

Appendix B Outlier Statistics

Number NDs		0							
For 1% Significance Level, there is no Potential Outlier									
Rosner's Outlier Test for 1 Outliers in Chloride (m-61)									
Total N		25							
Number NDs		0							
Number Detects		25							
Mean of Detects		1376							
SD of Detects		109.1							
Number of data		25							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	1376	106.9	1700	7	3.031	2.82	3.14		
For 5% Significance Level, there is 1 Potential Outlier									
Therefore, Observation 1700 is a Potential Statistical Outlier									
For 1% Significance Level, there is no Potential Outlier									
Rosner's Outlier Test for 1 Outliers in Fluoride (m-54)									
Total N		26							
Number NDs		0							
Number Detects		26							
Mean of Detects		1.373							
SD of Detects		0.108							
Number of data		26							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		

Appendix B Outlier Statistics

Number NDs		0						
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.373	0.106	1.8	19	4.034	2.84	3.16	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Fluoride (m-59)								
Total N		25						
Number NDs		0						
Number Detects		25						
Mean of Detects		1.404						
SD of Detects		0.0978						
Number of data		25						
Number of suspected outliers		1						
NDs not included in the following:								
#	Mean	sd	Potential outlier	Obs. Number	Test value	Critical value (5%)	Critical value (1%)	
1	1.404	0.0958	1.8	19	4.132	2.82	3.14	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.8 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Fluoride (m-60)								
Total N		26						
Number NDs		0						
Number Detects		26						
Mean of Detects		1.45						
SD of Detects		0.0762						

Appendix B Outlier Statistics

Number NDs		0						
Number of data		26						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.45	0.0747	1.7	19	3.348	2.84	3.16	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 1.7 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Fluoride (m-61)								
Total N		26						
Number NDs		0						
Number Detects		26						
Mean of Detects		1.431						
SD of Detects		0.0736						
Number of data		26						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	1.431	0.0722	1.6	20	2.345	2.84	3.16	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in pH (m-54)								
Total N		25						

Appendix B Outlier Statistics

Number NDs		0							
Number NDs		0							
Number Detects		25							
Mean of Detects		7.576							
SD of Detects		0.136							
Number of data		25							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	7.576	0.133	7.3	19	2.069	2.82	3.14		
For 5% Significance Level, there is no Potential Outlier									
For 1% Significance Level, there is no Potential Outlier									
Rosner's Outlier Test for 1 Outliers in pH (m-59)									
Total N		25							
Number NDs		0							
Number Detects		25							
Mean of Detects		7.688							
SD of Detects		0.148							
Number of data		25							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	7.688	0.145	8.1	6	2.851	2.82	3.14		
For 5% Significance Level, there is 1 Potential Outlier									
Therefore, Observation 8.1 is a Potential Statistical Outlier									
For 1% Significance Level, there is no Potential Outlier									

Appendix B Outlier Statistics

Number NDs	0							
Dixon's Outlier Test for pH (m-60)								
Total N = 24								
Number NDs = 0								
Number Detects = 24								
10% critical value: 0.367								
5% critical value: 0.413								
1% critical value: 0.497								
Note: NDs excluded from Outlier Test								
1. Data Value 8 is a Potential Outlier (Upper Tail)?								
Test Statistic: 0.400								
For 10% significance level, 8 is an outlier.								
For 5% significance level, 8 is not an outlier.								
For 1% significance level, 8 is not an outlier.								
2. Data Value 7.5 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.000								
For 10% significance level, 7.5 is not an outlier.								
For 5% significance level, 7.5 is not an outlier.								
For 1% significance level, 7.5 is not an outlier.								
Dixon's Outlier Test for pH (m-61)								
Total N = 24								
Number NDs = 0								
Number Detects = 24								
10% critical value: 0.367								
5% critical value: 0.413								
1% critical value: 0.497								
Note: NDs excluded from Outlier Test								
1. Data Value 8 is a Potential Outlier (Upper Tail)?								

Appendix B Outlier Statistics

Number NDs	0							
Test Statistic: 0.400								
For 10% significance level, 8 is an outlier.								
For 5% significance level, 8 is not an outlier.								
For 1% significance level, 8 is not an outlier.								
2. Data Value 7.22 is a Potential Outlier (Lower Tail)?								
Test Statistic: 0.483								
For 10% significance level, 7.22 is an outlier.								
For 5% significance level, 7.22 is an outlier.								
For 1% significance level, 7.22 is not an outlier.								
Rosner's Outlier Test for 1 Outliers in Sulfate (m-54)								
Total N	27							
Number NDs	0							
Number Detects	27							
Mean of Detects	368.1							
SD of Detects	20.39							
Number of data	27							
Number of suspected outliers	1							
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	368.1	20.01	420	21	2.592	2.86	3.18	
For 5% Significance Level, there is no Potential Outlier								
For 1% Significance Level, there is no Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Sulfate (m-59)								

Appendix B Outlier Statistics

Number NDs		0						
Total N		26						
Number NDs		0						
Number Detects		26						
Mean of Detects		350.8						
SD of Detects		13.83						
Number of data		26						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	350.8	13.57	400	22	3.629	2.84	3.16	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 400 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in Sulfate (m-60)								
Total N		27						
Number NDs		0						
Number Detects		27						
Mean of Detects		363.7						
SD of Detects		26.77						
Number of data		27						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	363.7	26.27	450	22	3.285	2.86	3.18	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 450 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								

Appendix B Outlier Statistics

Number NDs		0							
Rosner's Outlier Test for 1 Outliers in Sulfate (m-61)									
Total N		26							
Number NDs		0							
Number Detects		26							
Mean of Detects		361.2							
SD of Detects		19.04							
Number of data		26							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	361.2	18.67	420	7	3.151	2.84	3.16		
For 5% Significance Level, there is 1 Potential Outlier Therefore, Observation 420 is a Potential Statistical Outlier									
For 1% Significance Level, there is no Potential Outlier									
Rosner's Outlier Test for 1 Outliers in TDS (m-54)									
Total N		27							
Number NDs		0							
Number Detects		27							
Mean of Detects		3011							
SD of Detects		190.8							
Number of data		27							
Number of suspected outliers		1							
NDs not included in the following:									
			Potential	Obs.	Test	Critical	Critical		
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)		
1	3011	187.2	2300	23	3.798	2.86	3.18		

Appendix B Outlier Statistics

Number NDs		0						
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 2300 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in TDS (m-59)								
Total N		26						
Number NDs		0						
Number Detects		26						
Mean of Detects		2712						
SD of Detects		127.5						
Number of data		26						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	2712	125	2300	22	3.291	2.84	3.16	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 2300 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in TDS (m-60)								
Total N		28						
Number NDs		0						
Number Detects		28						
Mean of Detects		2864						
SD of Detects		358.2						
Number of data		28						
Number of suspected outliers		1						

Appendix B Outlier Statistics

Number NDs		0						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	2864	351.7	4200	21	3.797	2.88	3.2	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 4200 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								
Rosner's Outlier Test for 1 Outliers in TDS (m-61)								
Total N		27						
Number NDs		0						
Number Detects		27						
Mean of Detects		2852						
SD of Detects		248.6						
Number of data		27						
Number of suspected outliers		1						
NDs not included in the following:								
			Potential	Obs.	Test	Critical	Critical	
#	Mean	sd	outlier	Number	value	value (5%)	value (1%)	
1	2852	244	3800	24	3.886	2.86	3.18	
For 5% Significance Level, there is 1 Potential Outlier								
Therefore, Observation 3800 is a Potential Statistical Outlier								
For 1% Significance Level, there is 1 Potential Outlier								

Appendix B Summary Statistics

General Statistics on Uncensored Data											
Date/Time of Computation	ProUCL 5.16/30/2023 7:34:18 PM										
User Selected Options											
From File	ProUCLUpload_Cholla_BAM_20230630.xls										
Full Precision	OFF										
From File: ProUCLUpload_Cholla_BAM_20230630.xls											
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (m-54)	25	3	25	0	0.00%	N/A	N/A	0.515	3.2600E-4	0.0181	0.035
Boron (m-59)	25	2	25	0	0.00%	N/A	N/A	0.495	1.6767E-4	0.0129	0.0261
Boron (m-60)	25	4	25	0	0.00%	N/A	N/A	0.506	2.9067E-4	0.017	0.0337
Boron (m-61)	25	3	25	0	0.00%	N/A	N/A	0.497	1.4767E-4	0.0122	0.0245
Calcium (m-54)	25	3	25	0	0.00%	N/A	N/A	98.56	11.34	3.367	0.0342
Calcium (m-59)	25	2	25	0	0.00%	N/A	N/A	87.28	9.96	3.156	0.0362
Calcium (m-60)	25	4	25	0	0.00%	N/A	N/A	86.4	10.92	3.304	0.0382
Calcium (m-61)	25	3	25	0	0.00%	N/A	N/A	90.04	7.04	2.653	0.0295
Chloride (m-54)	26	2	26	0	0.00%	N/A	N/A	1508	7138	84.49	0.056
Chloride (m-59)	25	2	25	0	0.00%	N/A	N/A	1316	6400	80	0.0608
Chloride (m-60)	26	3	26	0	0.00%	N/A	N/A	1373	4446	66.68	0.0486
Chloride (m-61)	25	3	25	0	0.00%	N/A	N/A	1376	11900	109.1	0.0793
Fluoride (m-54)	26	2	26	0	0.00%	N/A	N/A	1.373	0.0116	0.108	0.0786
Fluoride (m-59)	25	2	25	0	0.00%	N/A	N/A	1.404	0.00957	0.0978	0.0697
Fluoride (m-60)	26	3	26	0	0.00%	N/A	N/A	1.45	0.0058	0.0762	0.0525
Fluoride (m-61)	26	2	26	0	0.00%	N/A	N/A	1.431	0.00542	0.0736	0.0514
pH (m-54)	25	3	25	0	0.00%	N/A	N/A	7.576	0.0185	0.136	0.018
pH (m-59)	25	2	25	0	0.00%	N/A	N/A	7.688	0.0218	0.148	0.0192
pH (m-60)	24	5	24	0	0.00%	N/A	N/A	7.679	0.0163	0.128	0.0166
pH (m-61)	24	4	24	0	0.00%	N/A	N/A	7.667	0.0268	0.164	0.0214
Sulfate (m-54)	27	1	27	0	0.00%	N/A	N/A	368.1	415.7	20.39	0.0554
Sulfate (m-59)	26	1	26	0	0.00%	N/A	N/A	350.8	191.4	13.83	0.0394
Sulfate (m-60)	27	2	27	0	0.00%	N/A	N/A	363.7	716.5	26.77	0.0736
Sulfate (m-61)	26	2	26	0	0.00%	N/A	N/A	361.2	362.6	19.04	0.0527
TDS (m-54)	27	1	27	0	0.00%	N/A	N/A	3011	36410	190.8	0.0634
TDS (m-59)	26	1	26	0	0.00%	N/A	N/A	2712	16262	127.5	0.047
TDS (m-60)	28	1	28	0	0.00%	N/A	N/A	2864	128307	358.2	0.125

Appendix B Summary Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
TDS (m-61)	27	1	27	0	0.00%	N/A	N/A	2852	61823	248.6	0.0872
General Statistics for Raw Data Sets using Detected Data Only											
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (m-54)	25	3	0.48	0.56	0.515	0.51	3.2600E-4	0.0181	0.0148	0.519	0.035
Boron (m-59)	25	2	0.48	0.53	0.495	0.49	1.6767E-4	0.0129	0.0148	0.891	0.0261
Boron (m-60)	25	4	0.48	0.54	0.506	0.5	2.9067E-4	0.017	0.0148	0.233	0.0337
Boron (m-61)	25	3	0.48	0.52	0.497	0.5	1.4767E-4	0.0122	0.0148	0.223	0.0245
Calcium (m-54)	25	3	92	110	98.56	99	11.34	3.367	1.483	1.12	0.0342
Calcium (m-59)	25	2	79	93	87.28	87	9.96	3.156	2.965	-0.254	0.0362
Calcium (m-60)	25	4	79	92	86.4	86	10.92	3.304	2.965	-0.46	0.0382
Calcium (m-61)	25	3	86	97	90.04	90	7.04	2.653	2.965	0.593	0.0295
Chloride (m-54)	26	2	1300	1700	1508	1500	7138	84.49	0	-0.153	0.056
Chloride (m-59)	25	2	1200	1400	1316	1300	6400	80	148.3	-0.307	0.0608
Chloride (m-60)	26	3	1200	1500	1373	1400	4446	66.68	0	-0.514	0.0486
Chloride (m-61)	25	3	1100	1700	1376	1400	11900	109.1	0	0.311	0.0793
Fluoride (m-54)	26	2	1.2	1.8	1.373	1.4	0.0116	0.108	0	2.242	0.0786
Fluoride (m-59)	25	2	1.3	1.8	1.404	1.4	0.00957	0.0978	0	2.819	0.0697
Fluoride (m-60)	26	3	1.3	1.7	1.45	1.4	0.0058	0.0762	0.0741	1.177	0.0525
Fluoride (m-61)	26	2	1.3	1.6	1.431	1.4	0.00542	0.0736	0.0741	0.0811	0.0514
pH (m-54)	25	3	7.3	7.8	7.576	7.6	0.0185	0.136	0.148	-0.328	0.018
pH (m-59)	25	2	7.5	8.1	7.688	7.7	0.0218	0.148	0.148	0.928	0.0192
pH (m-60)	24	5	7.5	8	7.679	7.7	0.0163	0.128	0.148	0.423	0.0166
pH (m-61)	24	4	7.22	8	7.667	7.7	0.0268	0.164	0.148	-0.499	0.0214
Sulfate (m-54)	27	1	340	420	368.1	360	415.7	20.39	14.83	1.271	0.0554
Sulfate (m-59)	26	1	330	400	350.8	350	191.4	13.83	14.83	1.718	0.0394
Sulfate (m-60)	27	2	340	450	363.7	360	716.5	26.77	14.83	2.325	0.0736
Sulfate (m-61)	26	2	340	420	361.2	360	362.6	19.04	14.83	1.554	0.0527
TDS (m-54)	27	1	2300	3300	3011	3100	36410	190.8	148.3	-2.072	0.0634
TDS (m-59)	26	1	2300	2900	2712	2700	16262	127.5	148.3	-1.486	0.047
TDS (m-60)	28	1	2200	4200	2864	2800	128307	358.2	148.3	2.455	0.125
TDS (m-61)	27	1	2300	3800	2852	2800	61823	248.6	148.3	1.897	0.0872
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile

Appendix B Summary Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Boron (m-54)	25	3	0.5	0.5	0.5	0.51	0.53	0.53	0.53	0.546	0.558
Boron (m-59)	25	2	0.48	0.48	0.49	0.49	0.5	0.5	0.51	0.518	0.528
Boron (m-60)	25	4	0.484	0.49	0.5	0.5	0.52	0.522	0.53	0.53	0.538
Boron (m-61)	25	3	0.48	0.488	0.49	0.5	0.5	0.51	0.51	0.518	0.52
Calcium (m-54)	25	3	95	96	97	99	100	100	100	100	107.6
Calcium (m-59)	25	2	84	85	85	87	89	89.2	91.2	92.8	93
Calcium (m-60)	25	4	82.4	84	85	86	89	89.2	90	90.8	91.76
Calcium (m-61)	25	3	87	88	88	90	92	92	93	93.8	96.28
Chloride (m-54)	26	2	1400	1500	1500	1500	1575	1600	1600	1600	1675
Chloride (m-59)	25	2	1200	1200	1300	1300	1400	1400	1400	1400	1400
Chloride (m-60)	26	3	1300	1300	1300	1400	1400	1400	1400	1475	1500
Chloride (m-61)	25	3	1300	1300	1300	1400	1400	1400	1460	1500	1652
Fluoride (m-54)	26	2	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.7
Fluoride (m-59)	25	2	1.3	1.38	1.4	1.4	1.4	1.4	1.46	1.5	1.728
Fluoride (m-60)	26	3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.65
Fluoride (m-61)	26	2	1.35	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.575
pH (m-54)	25	3	7.4	7.48	7.5	7.6	7.7	7.7	7.7	7.78	7.8
pH (m-59)	25	2	7.512	7.594	7.6	7.7	7.8	7.8	7.86	7.9	8.052
pH (m-60)	24	5	7.5	7.584	7.6	7.7	7.8	7.8	7.8	7.826	7.961
pH (m-61)	24	4	7.5	7.554	7.598	7.7	7.8	7.8	7.8	7.885	7.977
Sulfate (m-54)	27	1	350	350	350	360	375	380	394	414	420
Sulfate (m-59)	26	1	340	340	340	350	357.5	360	360	367.5	392.5
Sulfate (m-60)	27	2	346	350	350	360	365	370	388	428	447.4
Sulfate (m-61)	26	2	340	350	350	360	367.5	370	385	397.5	415
TDS (m-54)	27	1	2900	2900	2900	3100	3100	3100	3200	3200	3274
TDS (m-59)	26	1	2550	2700	2700	2700	2800	2800	2800	2875	2900
TDS (m-60)	28	1	2670	2740	2800	2800	2900	2900	2930	3520	4092
TDS (m-61)	27	1	2700	2700	2750	2800	2900	2900	3000	3140	3644

Appendix B Time Series Statistics

Mann-Kendall Trend Test Analysis	
User Selected Options	
Date/Time of Computation	ProUCL 5.16/30/2023 5:15:57 PM
From File	ProUCLUpload_Cholla_BAM_20230630.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-m-54	
General Statistics	
Number of Events Reported (m)	28
Number of Missing Events	3
Number of Reported Events Used	25
Number Values Reported (n)	28
Number Values Missing	3
Number Values Used	25
Minimum	0.48
Maximum	0.56
Mean	0.515
Geometric Mean	0.515
Median	0.51
Standard Deviation	0.0181
Coefficient of Variation	0.035
Mann-Kendall Test	
M-K Test Value (S)	-83
Critical Value (0.05)	-1.645
Standard Deviation of S	41.89
Standardized Value of S	-1.957
Approximate p-value	0.0252
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Boron-m-59	
General Statistics	
Number of Events Reported (m)	27
Number of Missing Events	2
Number of Reported Events Used	25

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	0.48							
Maximum	0.53							
Mean	0.495							
Geometric Mean	0.495							
Median	0.49							
Standard Deviation	0.0129							
Coefficient of Variation	0.0261							
Mann-Kendall Test								
M-K Test Value (S)	-17							
Critical Value (0.05)	-1.645							
Standard Deviation of S	41.16							
Standardized Value of S	-0.389							
Approximate p-value	0.349							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Boron-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	4							
Number of Reported Events Used	25							
Number Values Reported (n)	29							
Number Values Missing	4							
Number Values Used	25							
Minimum	0.48							
Maximum	0.54							
Mean	0.506							
Geometric Mean	0.506							
Median	0.5							
Standard Deviation	0.017							
Coefficient of Variation	0.0337							
Mann-Kendall Test								
M-K Test Value (S)	-104							

Appendix B Time Series Statistics

Number of Events Reported (m)	28						
Critical Value (0.05)	-1.645						
Standard Deviation of S	41.9						
Standardized Value of S	-2.458						
Approximate p-value	0.00698						
Statistically significant evidence of a decreasing trend at the specified level of significance.							
Boron-m-61							
General Statistics							
Number of Events Reported (m)	28						
Number of Missing Events	3						
Number of Reported Events Used	25						
Number Values Reported (n)	28						
Number Values Missing	3						
Number Values Used	25						
Minimum	0.48						
Maximum	0.52						
Mean	0.497						
Geometric Mean	0.497						
Median	0.5						
Standard Deviation	0.0122						
Coefficient of Variation	0.0245						
Mann-Kendall Test							
M-K Test Value (S)	-60						
Critical Value (0.05)	-1.645						
Standard Deviation of S	41.39						
Standardized Value of S	-1.425						
Approximate p-value	0.077						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
Date/Time of Computation	ProUCL 5.16/30/2023 5:17:42 PM						
From File	ProUCLUpload_Cholla_BAM_20230630.xls						
Full Precision	OFF						

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Confidence Coefficient	0.95							
Level of Significance	0.05							
Calcium-m-54								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	3							
Number or Reported Events Used	25							
Number Values Reported (n)	28							
Number Values Missing	3							
Number Values Used	25							
Minimum	92							
Maximum	110							
Mean	98.56							
Geometric Mean	98.51							
Median	99							
Standard Deviation	3.367							
Coefficient of Variation	0.0342							
Mann-Kendall Test								
M-K Test Value (S)	-96							
Critical Value (0.05)	-1.645							
Standard Deviation of S	40.75							
Standardized Value of S	-2.331							
Approximate p-value	0.00987							
Statistically significant evidence of a decreasing trend at the specified level of significance.								
Calcium-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	2							
Number or Reported Events Used	25							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	79							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Maximum	93							
Mean	87.28							
Geometric Mean	87.22							
Median	87							
Standard Deviation	3.156							
Coefficient of Variation	0.0362							
Mann-Kendall Test								
M-K Test Value (S)	-28							
Critical Value (0.05)	-1.645							
Standard Deviation of S	42.45							
Standardized Value of S	-0.636							
Approximate p-value	0.262							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Calcium-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	4							
Number of Reported Events Used	25							
Number Values Reported (n)	29							
Number Values Missing	4							
Number Values Used	25							
Minimum	79							
Maximum	92							
Mean	86.4							
Geometric Mean	86.34							
Median	86							
Standard Deviation	3.304							
Coefficient of Variation	0.0382							
Mann-Kendall Test								
M-K Test Value (S)	-130							
Critical Value (0.05)	-1.645							
Standard Deviation of S	42.5							
Standardized Value of S	-3.035							
Approximate p-value	0.0012							

Appendix B Time Series Statistics

Number of Events Reported (m)	28						
Statistically significant evidence of a decreasing trend at the specified level of significance.							
Calcium-m-61							
General Statistics							
Number of Events Reported (m)	28						
Number of Missing Events	3						
Number of Reported Events Used	25						
Number Values Reported (n)	28						
Number Values Missing	3						
Number Values Used	25						
Minimum	86						
Maximum	97						
Mean	90.04						
Geometric Mean	90						
Median	90						
Standard Deviation	2.653						
Coefficient of Variation	0.0295						
Mann-Kendall Test							
M-K Test Value (S)	-23						
Critical Value (0.05)	-1.645						
Standard Deviation of S	42.3						
Standardized Value of S	-0.52						
Approximate p-value	0.302						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
Date/Time of Computation	ProUCL 5.16/30/2023 5:22:08 PM						
From File	ProUCLUpload_Cholla_BAM_20230630.xls						
Full Precision	OFF						
Confidence Coefficient	0.95						
Level of Significance	0.05						
Chloride-m-54							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	2							
Number of Reported Events Used	26							
Number Values Reported (n)	28							
Number Values Missing	2							
Number Values Used	26							
Minimum	1300							
Maximum	1700							
Mean	1508							
Geometric Mean	1505							
Median	1500							
Standard Deviation	84.49							
Coefficient of Variation	0.056							
Mann-Kendall Test								
M-K Test Value (S)	-11							
Critical Value (0.05)	-1.645							
Standard Deviation of S	41.08							
Standardized Value of S	-0.243							
Approximate p-value	0.404							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Chloride-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	2							
Number of Reported Events Used	25							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	1200							
Maximum	1400							
Mean	1316							
Geometric Mean	1314							
Median	1300							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Standard Deviation	80							
Coefficient of Variation	0.0608							
Mann-Kendall Test								
M-K Test Value (S)	-82							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.85							
Standardized Value of S	-2.033							
Approximate p-value	0.021							
Statistically significant evidence of a decreasing trend at the specified level of significance.								
Chloride-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	3							
Number of Reported Events Used	26							
Number Values Reported (n)	29							
Number Values Missing	3							
Number Values Used	26							
Minimum	1200							
Maximum	1500							
Mean	1373							
Geometric Mean	1371							
Median	1400							
Standard Deviation	66.68							
Coefficient of Variation	0.0486							
Mann-Kendall Test								
M-K Test Value (S)	-33							
Critical Value (0.05)	-1.645							
Standard Deviation of S	38.98							
Standardized Value of S	-0.821							
Approximate p-value	0.206							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Chloride-m-61								

Appendix B Time Series Statistics

Number of Events Reported (m)	28						
General Statistics							
Number of Events Reported (m)	28						
Number of Missing Events	3						
Number of Reported Events Used	25						
Number Values Reported (n)	28						
Number Values Missing	3						
Number Values Used	25						
Minimum	1100						
Maximum	1700						
Mean	1376						
Geometric Mean	1372						
Median	1400						
Standard Deviation	109.1						
Coefficient of Variation	0.0793						
Mann-Kendall Test							
M-K Test Value (S)	-51						
Critical Value (0.05)	-1.645						
Standard Deviation of S	38.34						
Standardized Value of S	-1.304						
Approximate p-value	0.0961						
Insufficient evidence to identify a significant trend at the specified level of significance.							
Mann-Kendall Trend Test Analysis							
User Selected Options							
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Confidence Coefficient	0.95						
Level of Significance	0.05						
Fluoride-m-54							
General Statistics							
Number of Events Reported (m)	28						
Number of Missing Events	2						

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Number or Reported Events Used	26							
Number Values Reported (n)	28							
Number Values Missing	2							
Number Values Used	26							
Minimum	1.2							
Maximum	1.8							
Mean	1.373							
Geometric Mean	1.369							
Median	1.4							
Standard Deviation	0.108							
Coefficient of Variation	0.0786							
Mann-Kendall Test								
M-K Test Value (S)	81							
Critical Value (0.05)	1.645							
Standard Deviation of S	38.98							
Standardized Value of S	2.052							
Approximate p-value	0.0201							
Statistically significant evidence of an increasing trend at the specified level of significance.								
Fluoride-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	2							
Number or Reported Events Used	25							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	1.3							
Maximum	1.8							
Mean	1.404							
Geometric Mean	1.401							
Median	1.4							
Standard Deviation	0.0978							
Coefficient of Variation	0.0697							
Mann-Kendall Test								

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
M-K Test Value (S)	59							
Critical Value (0.05)	1.645							
Standard Deviation of S	35.02							
Standardized Value of S	1.656							
Approximate p-value	0.0488							
Statistically significant evidence of an increasing trend at the specified level of significance.								
Fluoride-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	3							
Number of Reported Events Used	26							
Number Values Reported (n)	29							
Number Values Missing	3							
Number Values Used	26							
Minimum	1.3							
Maximum	1.7							
Mean	1.45							
Geometric Mean	1.448							
Median	1.4							
Standard Deviation	0.0762							
Coefficient of Variation	0.0525							
Mann-Kendall Test								
M-K Test Value (S)	40							
Critical Value (0.05)	1.645							
Standard Deviation of S	40.31							
Standardized Value of S	0.968							
Approximate p-value	0.167							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Fluoride-m-61								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	2							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Number or Reported Events Used	26							
Number Values Reported (n)	28							
Number Values Missing	2							
Number Values Used	26							
Minimum	1.3							
Maximum	1.6							
Mean	1.431							
Geometric Mean	1.429							
Median	1.4							
Standard Deviation	0.0736							
Coefficient of Variation	0.0514							
Mann-Kendall Test								
M-K Test Value (S)	36							
Critical Value (0.05)	1.645							
Standard Deviation of S	41.16							
Standardized Value of S	0.85							
Approximate p-value	0.198							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Mann-Kendall Trend Test Analysis								
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Confidence Coefficient	0.95							
Level of Significance	0.05							
pH-m-54								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	3							
Number or Reported Events Used	25							
Number Values Reported (n)	28							
Number Values Missing	3							
Number Values Used	25							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Minimum	7.3							
Maximum	7.8							
Mean	7.576							
Geometric Mean	7.575							
Median	7.6							
Standard Deviation	0.136							
Coefficient of Variation	0.018							
Mann-Kendall Test								
M-K Test Value (S)	2							
Critical Value (0.05)	1.645							
Standard Deviation of S	41.8							
Standardized Value of S	0.0239							
Approximate p-value	0.49							
Insufficient evidence to identify a significant trend at the specified level of significance.								
pH-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	2							
Number of Reported Events Used	25							
Number Values Reported (n)	27							
Number Values Missing	2							
Number Values Used	25							
Minimum	7.5							
Maximum	8.1							
Mean	7.688							
Geometric Mean	7.687							
Median	7.7							
Standard Deviation	0.148							
Coefficient of Variation	0.0192							
Mann-Kendall Test								
M-K Test Value (S)	-3							
Critical Value (0.05)	-1.645							
Standard Deviation of S	41.84							
Standardized Value of S	-0.0478							

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Approximate p-value	0.481							
Insufficient evidence to identify a significant trend at the specified level of significance.								
pH-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	5							
Number or Reported Events Used	24							
Number Values Reported (n)	29							
Number Values Missing	5							
Number Values Used	24							
Minimum	7.5							
Maximum	8							
Mean	7.679							
Geometric Mean	7.678							
Median	7.7							
Standard Deviation	0.128							
Coefficient of Variation	0.0166							
Mann-Kendall Test								
M-K Test Value (S)	-51							
Critical Value (0.05)	-1.645							
Standard Deviation of S	39.23							
Standardized Value of S	-1.275							
Approximate p-value	0.101							
Insufficient evidence to identify a significant trend at the specified level of significance.								
pH-m-61								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	4							
Number or Reported Events Used	24							
Number Values Reported (n)	28							
Number Values Missing	4							
Number Values Used	24							

Appendix B Time Series Statistics

Number of Events Reported (m)	28								
Minimum	7.22								
Maximum	8								
Mean	7.667								
Geometric Mean	7.665								
Median	7.7								
Standard Deviation	0.164								
Coefficient of Variation	0.0214								
Mann-Kendall Test									
M-K Test Value (S)	3								
Critical Value (0.05)	1.645								
Standard Deviation of S	39.43								
Standardized Value of S	0.0507								
Approximate p-value	0.48								
Insufficient evidence to identify a significant trend at the specified level of significance.									
Mann-Kendall Trend Test Analysis									
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Confidence Coefficient	0.95								
Level of Significance	0.05								
Sulfate-m-54									
General Statistics									
Number of Events Reported (m)	28								
Number of Missing Events	1								
Number of Reported Events Used	27								
Number Values Reported (n)	28								
Number Values Missing	1								
Number Values Used	27								
Minimum	340								
Maximum	420								
Mean	368.1								
Geometric Mean	367.6								

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Median	360							
Standard Deviation	20.39							
Coefficient of Variation	0.0554							
Mann-Kendall Test								
M-K Test Value (S)	52							
Critical Value (0.05)	1.645							
Standard Deviation of S	46.85							
Standardized Value of S	1.088							
Approximate p-value	0.138							
Insufficient evidence to identify a significant trend at the specified level of significance.								
Sulfate-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	1							
Number of Reported Events Used	26							
Number Values Reported (n)	27							
Number Values Missing	1							
Number Values Used	26							
Minimum	330							
Maximum	400							
Mean	350.8							
Geometric Mean	350.5							
Median	350							
Standard Deviation	13.83							
Coefficient of Variation	0.0394							
Mann-Kendall Test								
M-K Test Value (S)	66							
Critical Value (0.05)	1.645							
Standard Deviation of S	42.98							
Standardized Value of S	1.512							
Approximate p-value	0.0652							
Insufficient evidence to identify a significant trend at the specified level of significance.								

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Sulfate-m-60								
General Statistics								
Number of Events Reported (m)	29							
Number of Missing Events	2							
Number or Reported Events Used	27							
Number Values Reported (n)	29							
Number Values Missing	2							
Number Values Used	27							
Minimum	340							
Maximum	450							
Mean	363.7							
Geometric Mean	362.8							
Median	360							
Standard Deviation	26.77							
Coefficient of Variation	0.0736							
Mann-Kendall Test								
M-K Test Value (S)	83							
Critical Value (0.05)	1.645							
Standard Deviation of S	46.09							
Standardized Value of S	1.779							
Approximate p-value	0.0376							
Statistically significant evidence of an increasing trend at the specified level of significance.								
Sulfate-m-61								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	2							
Number or Reported Events Used	26							
Number Values Reported (n)	28							
Number Values Missing	2							
Number Values Used	26							
Minimum	340							
Maximum	420							
Mean	361.2							
Geometric Mean	360.7							

Appendix B Time Series Statistics

Number of Events Reported (m)	28								
Median	360								
Standard Deviation	19.04								
Coefficient of Variation	0.0527								
Mann-Kendall Test									
M-K Test Value (S)	15								
Critical Value (0.05)	1.645								
Standard Deviation of S	44								
Standardized Value of S	0.318								
Approximate p-value	0.375								
Insufficient evidence to identify a significant trend at the specified level of significance.									
Mann-Kendall Trend Test Analysis									
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Confidence Coefficient	0.95								
Level of Significance	0.05								
TDS-m-54									
General Statistics									
Number of Events Reported (m)	28								
Number of Missing Events	1								
Number of Reported Events Used	27								
Number Values Reported (n)	28								
Number Values Missing	1								
Number Values Used	27								
Minimum	2300								
Maximum	3300								
Mean	3011								
Geometric Mean	3005								
Median	3100								
Standard Deviation	190.8								
Coefficient of Variation	0.0634								

Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Mann-Kendall Test								
M-K Test Value (S)	-4							
Critical Value (0.05)	-1.645							
Standard Deviation of S	46.12							
Standardized Value of S	-0.065							
Approximate p-value	0.474							
Insufficient evidence to identify a significant trend at the specified level of significance.								
TDS-m-59								
General Statistics								
Number of Events Reported (m)	27							
Number of Missing Events	1							
Number of Reported Events Used	26							
Number Values Reported (n)	27							
Number Values Missing	1							
Number Values Used	26							
Minimum	2300							
Maximum	2900							
Mean	2712							
Geometric Mean	2709							
Median	2700							
Standard Deviation	127.5							
Coefficient of Variation	0.047							
Mann-Kendall Test								
M-K Test Value (S)	-5							
Critical Value (0.05)	-1.645							
Standard Deviation of S	42.17							
Standardized Value of S	-0.0949							
Approximate p-value	0.462							
Insufficient evidence to identify a significant trend at the specified level of significance.								
TDS-m-60								
General Statistics								
Number of Events Reported (m)	29							

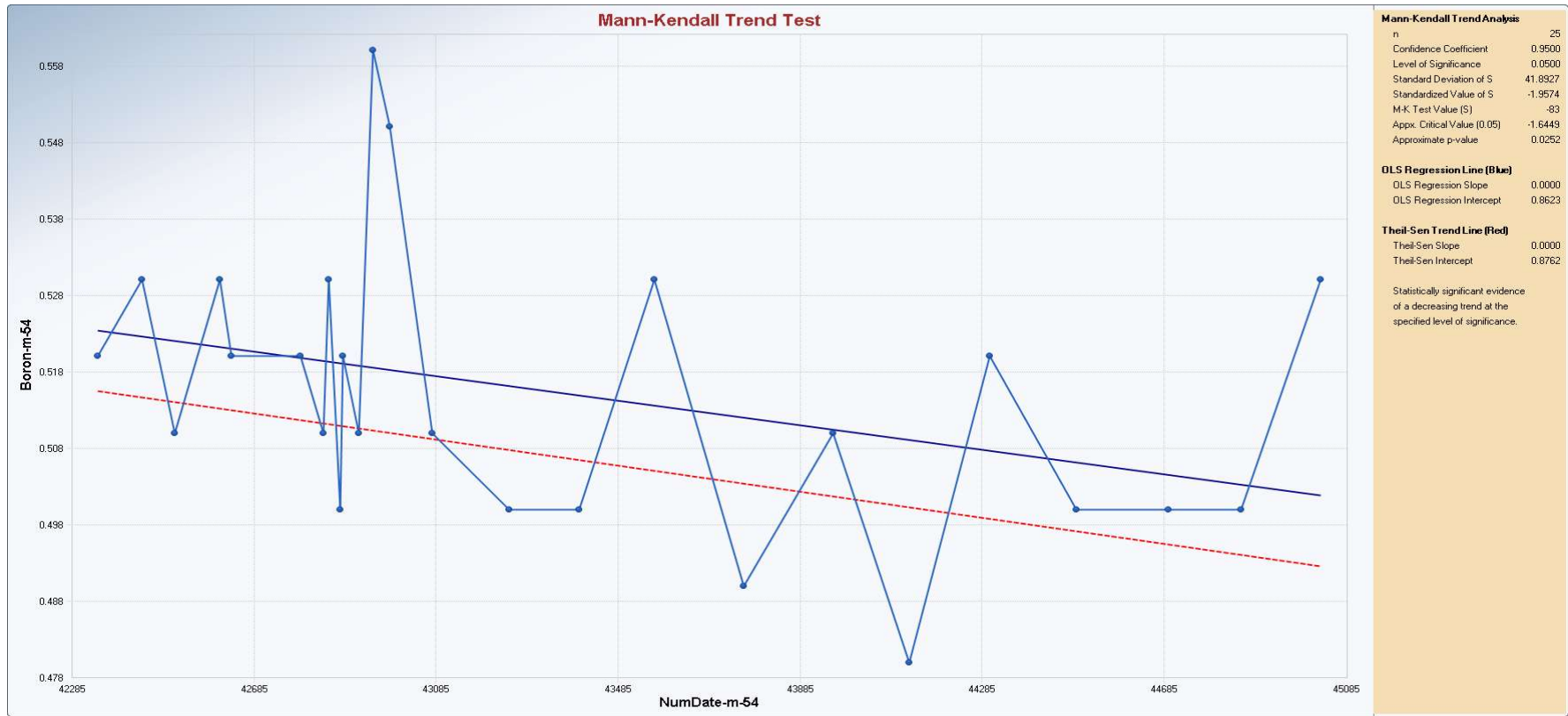
Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Number of Missing Events	1							
Number or Reported Events Used	28							
Number Values Reported (n)	29							
Number Values Missing	1							
Number Values Used	28							
Minimum	2200							
Maximum	4200							
Mean	2864							
Geometric Mean	2846							
Median	2800							
Standard Deviation	358.2							
Coefficient of Variation	0.125							
Mann-Kendall Test								
M-K Test Value (S)	22							
Critical Value (0.05)	1.645							
Standard Deviation of S	47.55							
Standardized Value of S	0.442							
Approximate p-value	0.329							
Insufficient evidence to identify a significant trend at the specified level of significance.								
TDS-m-61								
General Statistics								
Number of Events Reported (m)	28							
Number of Missing Events	1							
Number or Reported Events Used	27							
Number Values Reported (n)	28							
Number Values Missing	1							
Number Values Used	27							
Minimum	2300							
Maximum	3800							
Mean	2852							
Geometric Mean	2842							
Median	2800							
Standard Deviation	248.6							
Coefficient of Variation	0.0872							

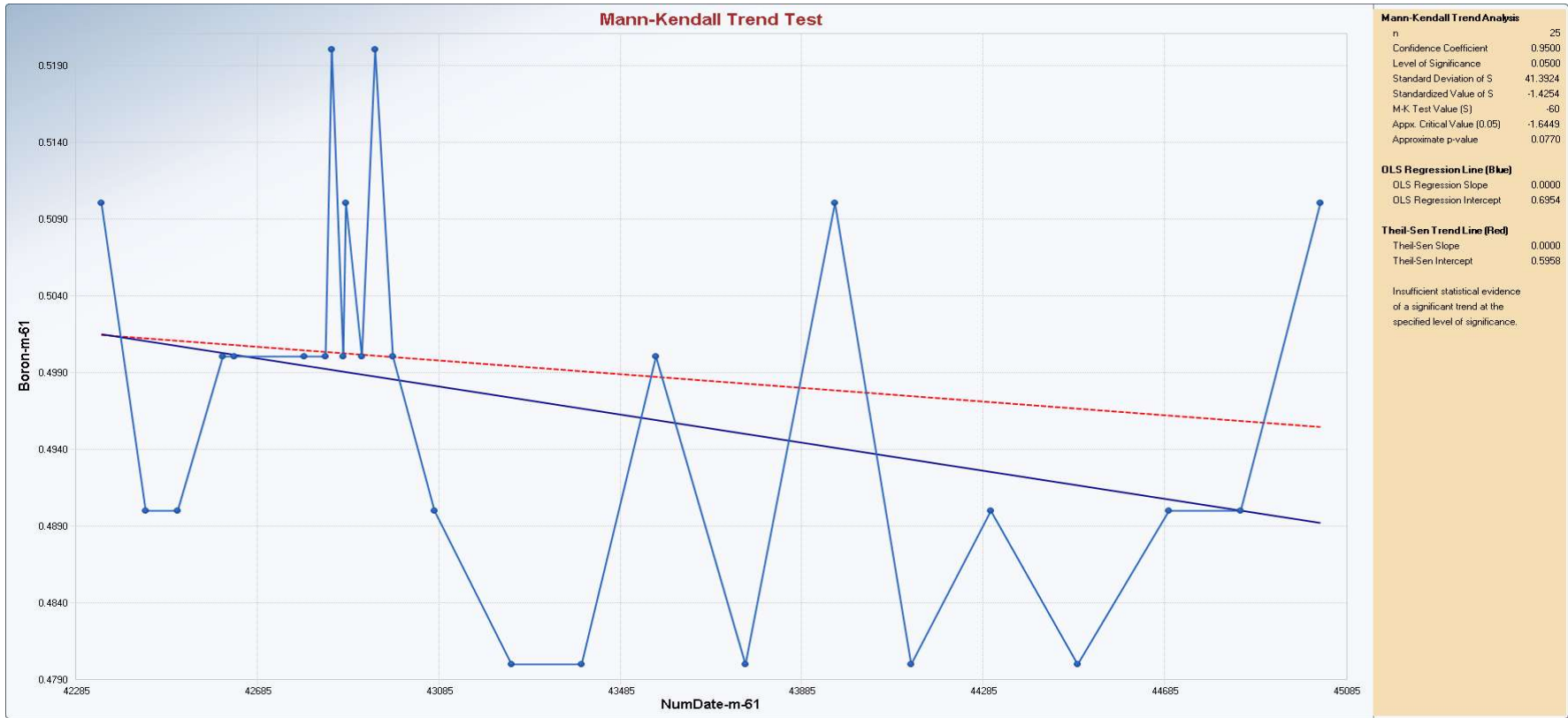
Appendix B Time Series Statistics

Number of Events Reported (m)	28							
Mann-Kendall Test								
M-K Test Value (S)	27							
Critical Value (0.05)	1.645							
Standard Deviation of S	46.48							
Standardized Value of S	0.559							
Approximate p-value	0.288							
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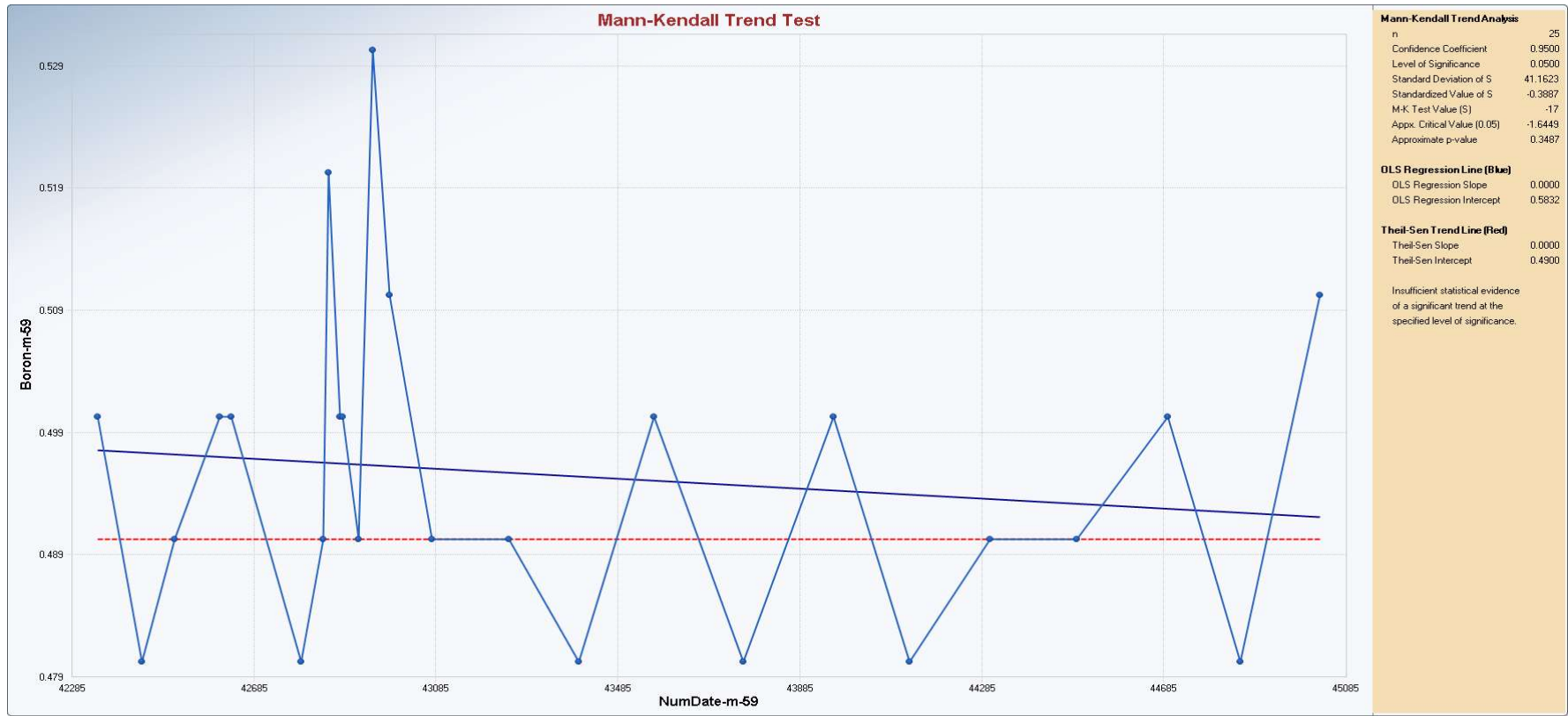
Appendix B Time Series Plots



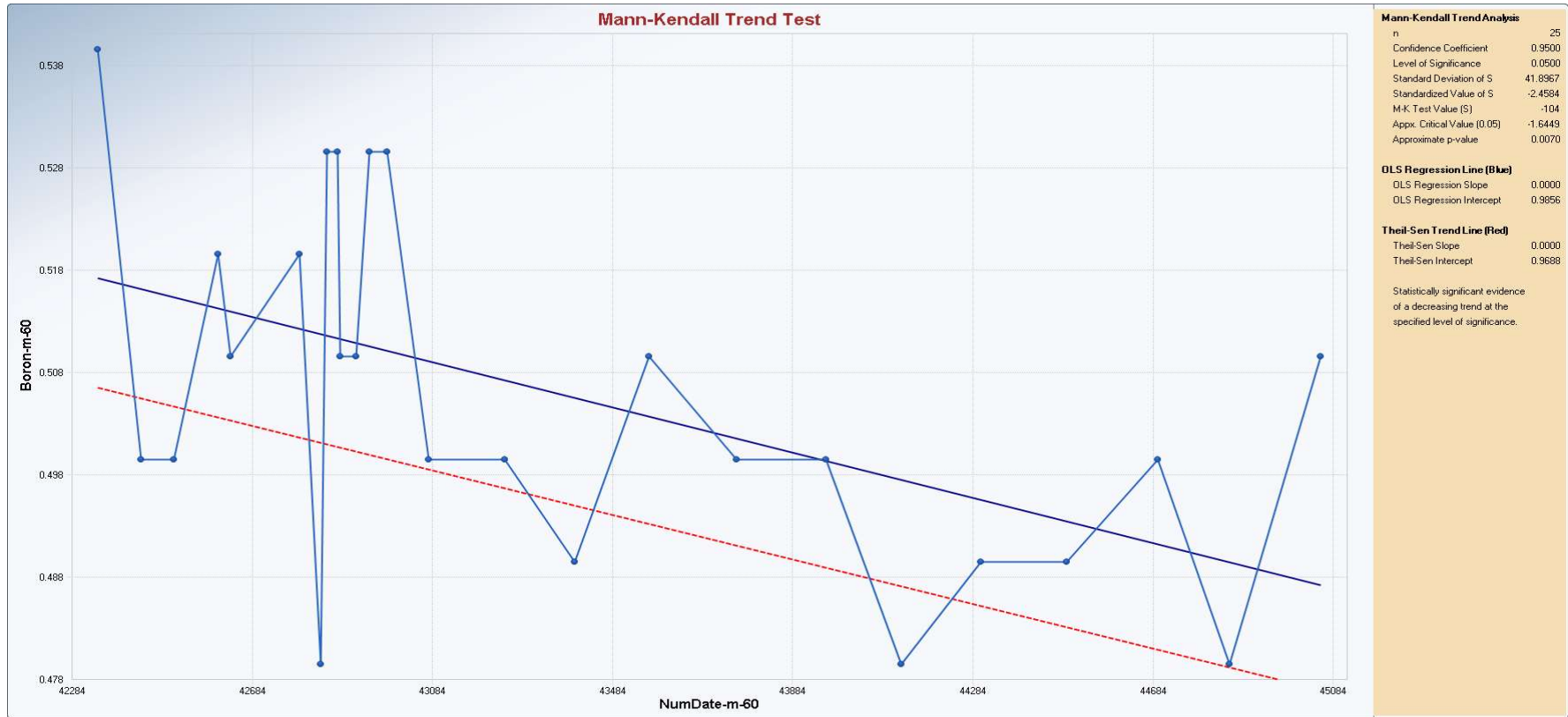
Appendix B Time Series Plots



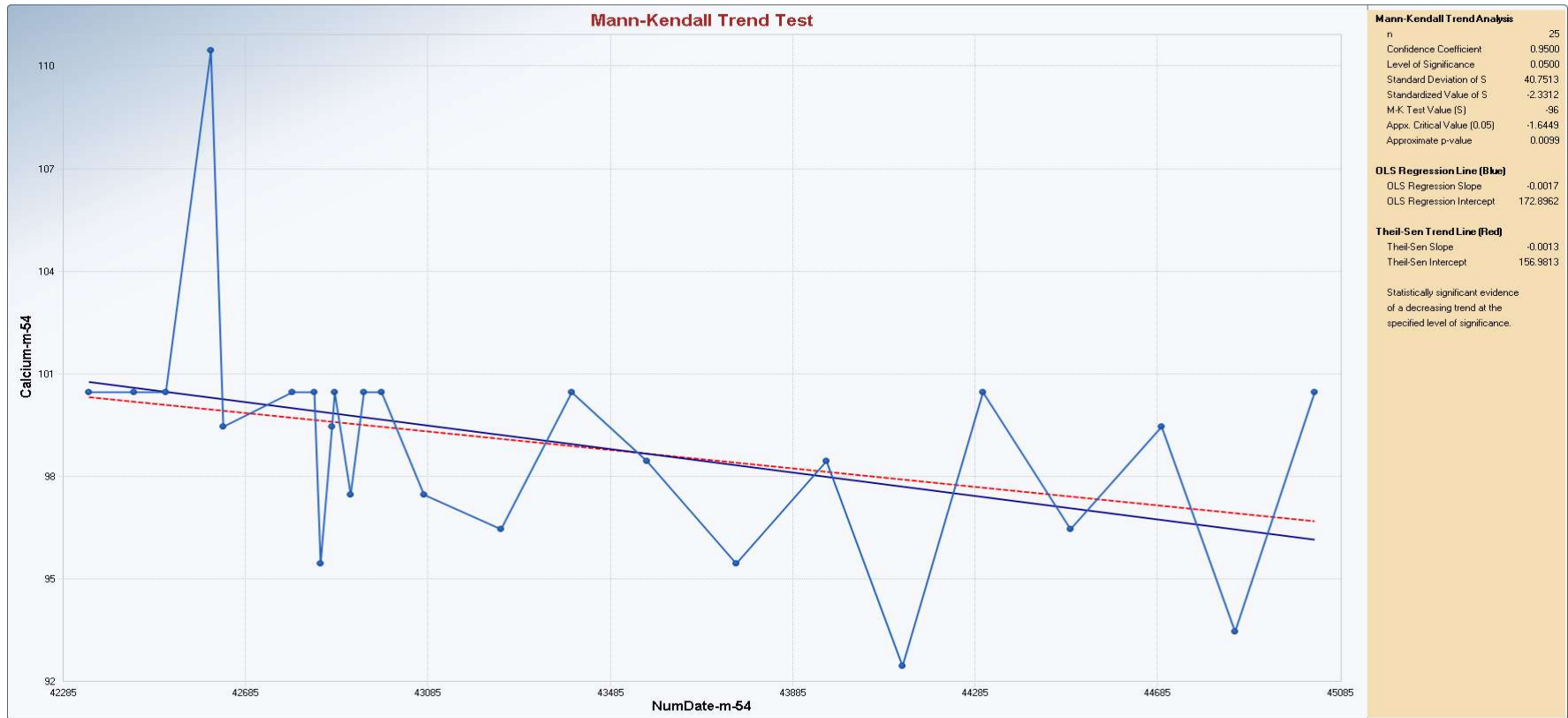
Appendix B Time Series Plots



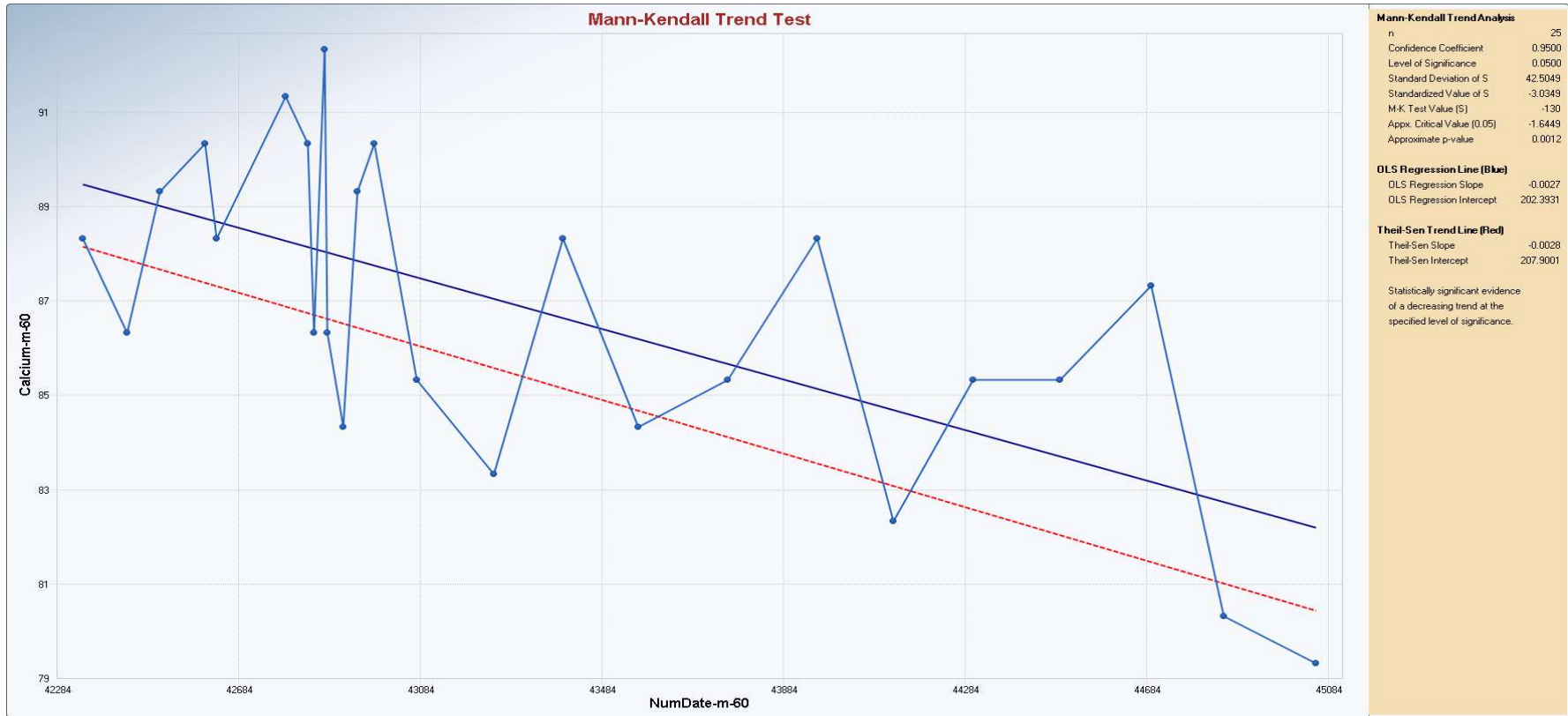
Appendix B Time Series Plots



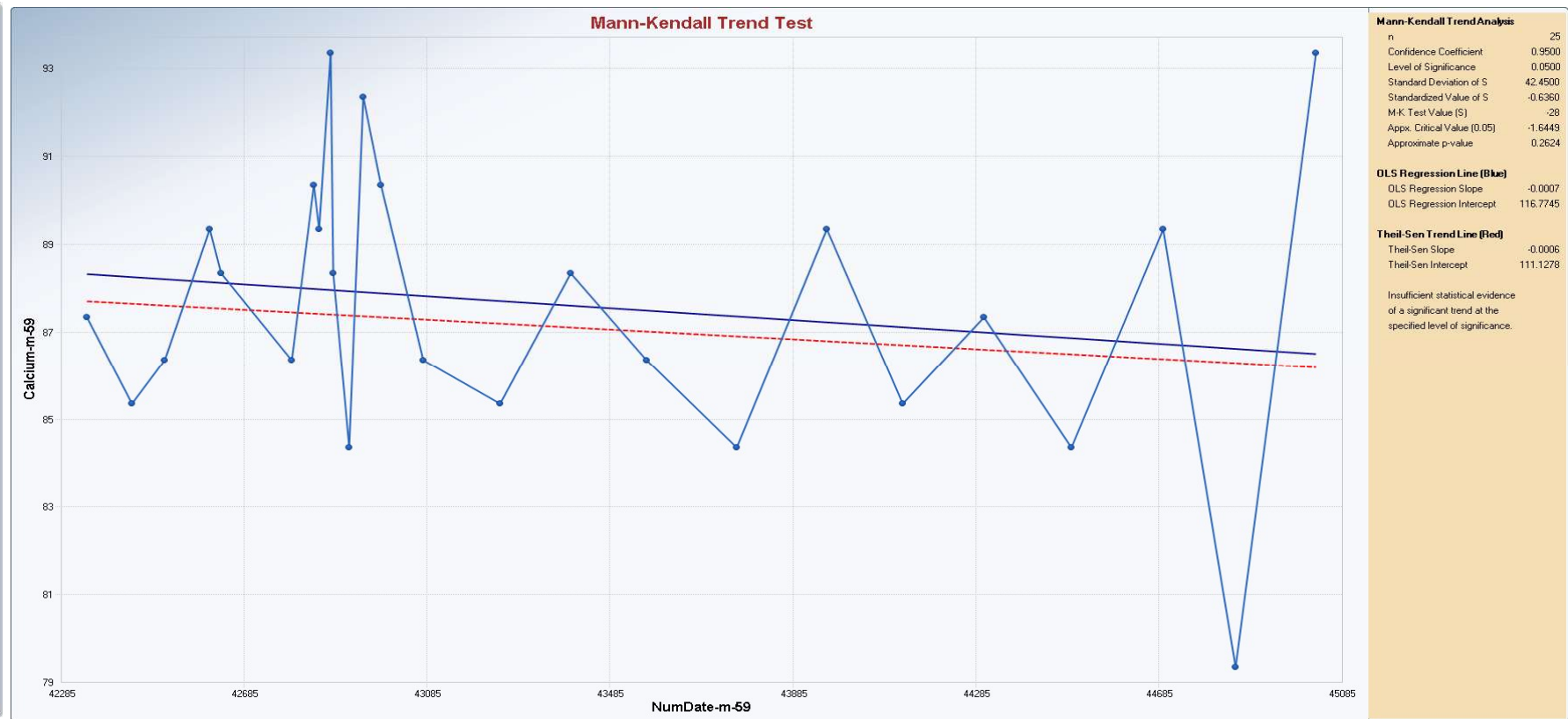
Appendix B Time Series Plots



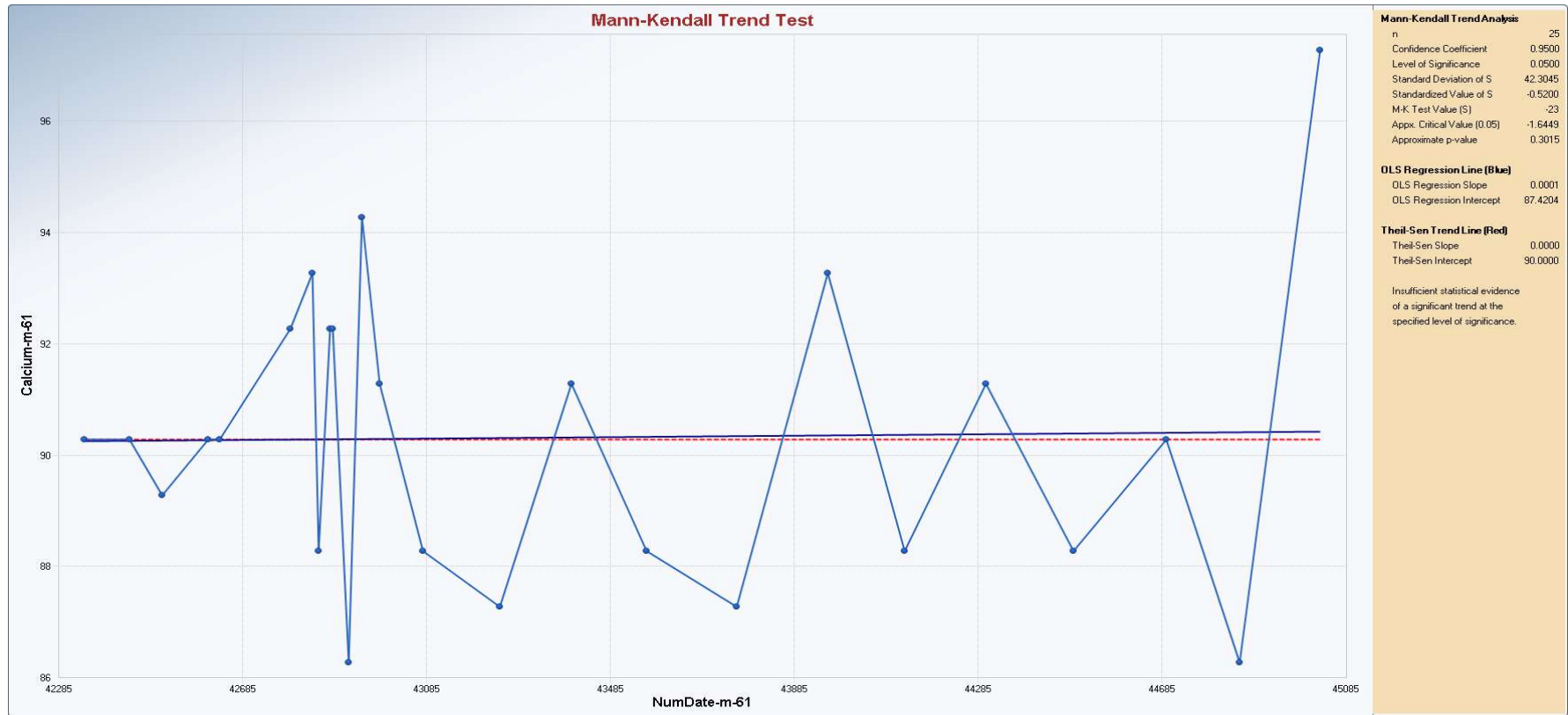
Appendix B Time Series Plots



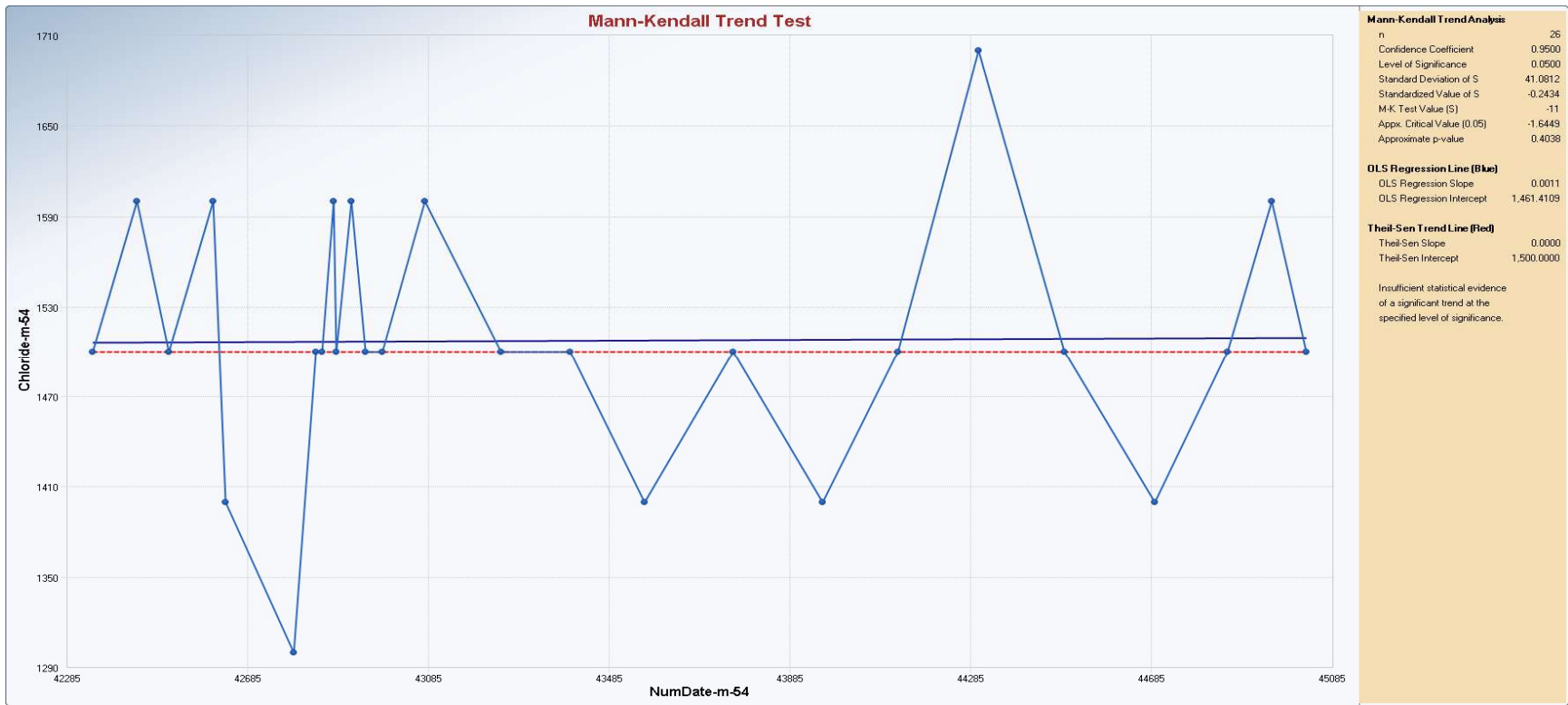
Appendix B Time Series Plots



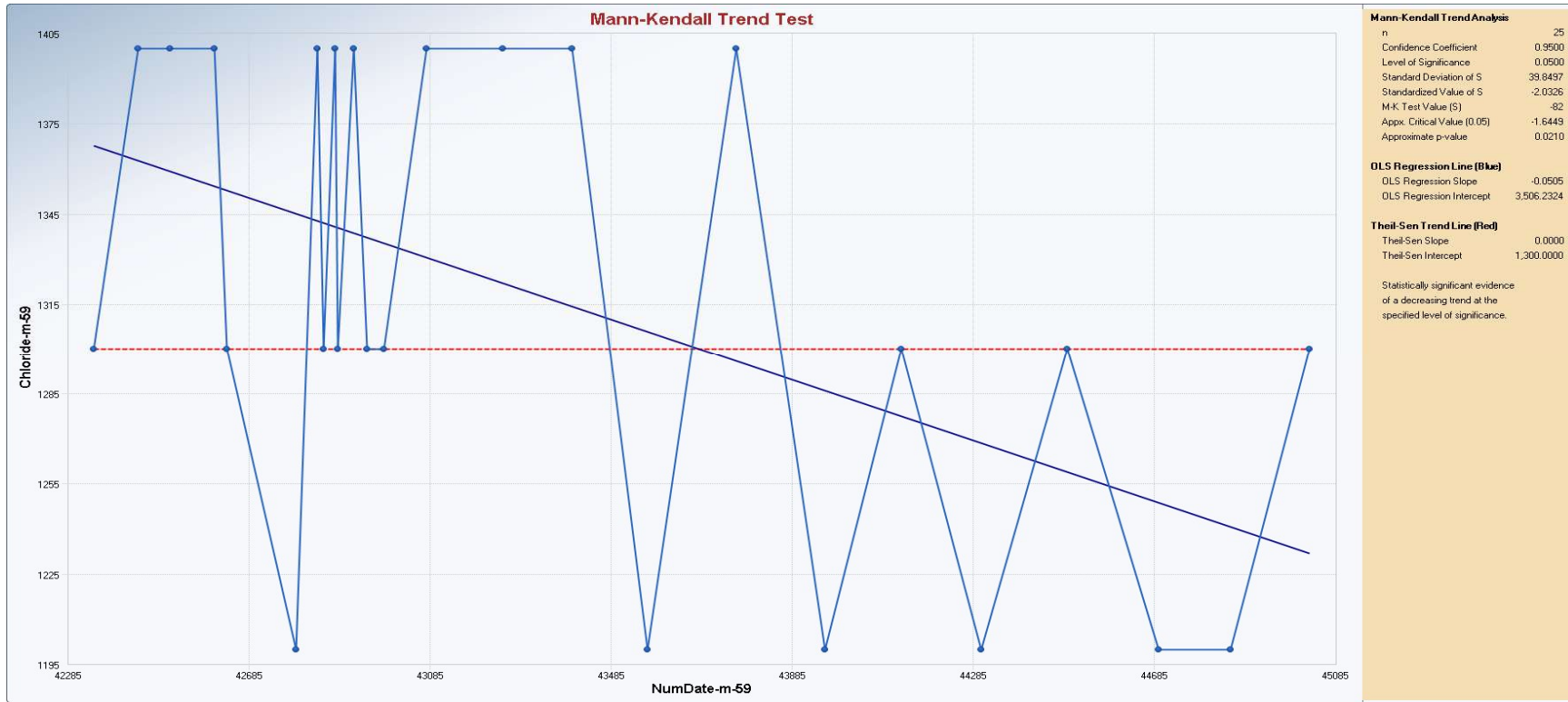
Appendix B Time Series Plots



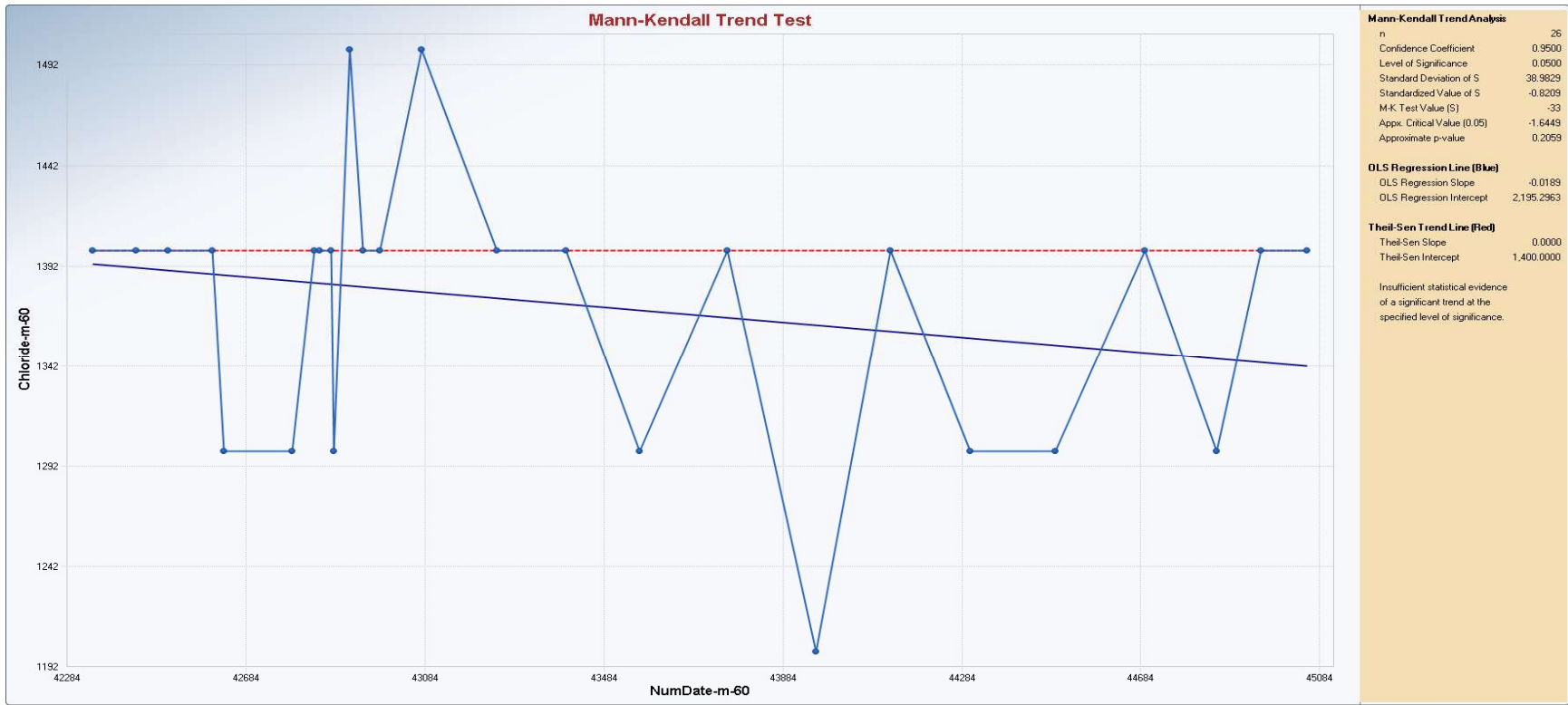
Appendix B Time Series Plots



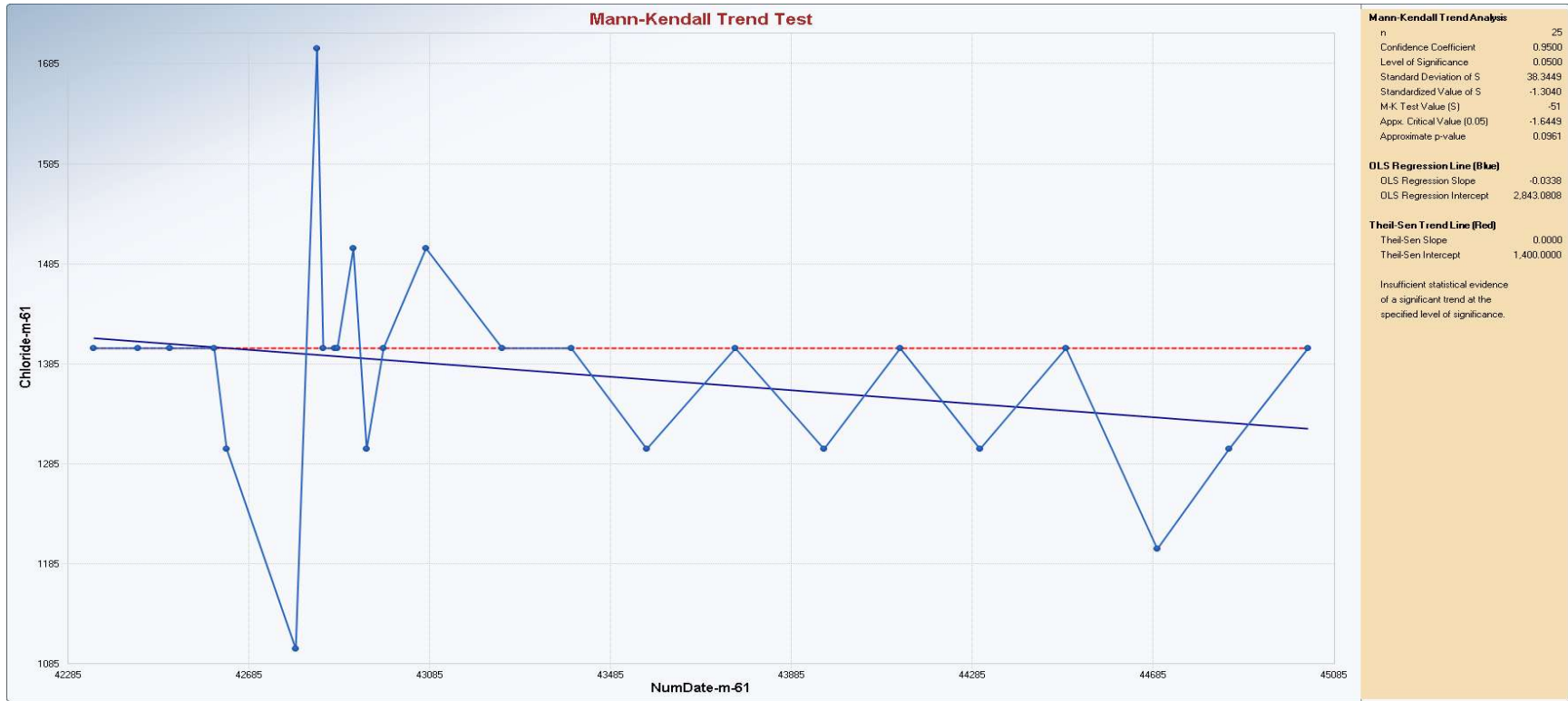
Appendix B Time Series Plots



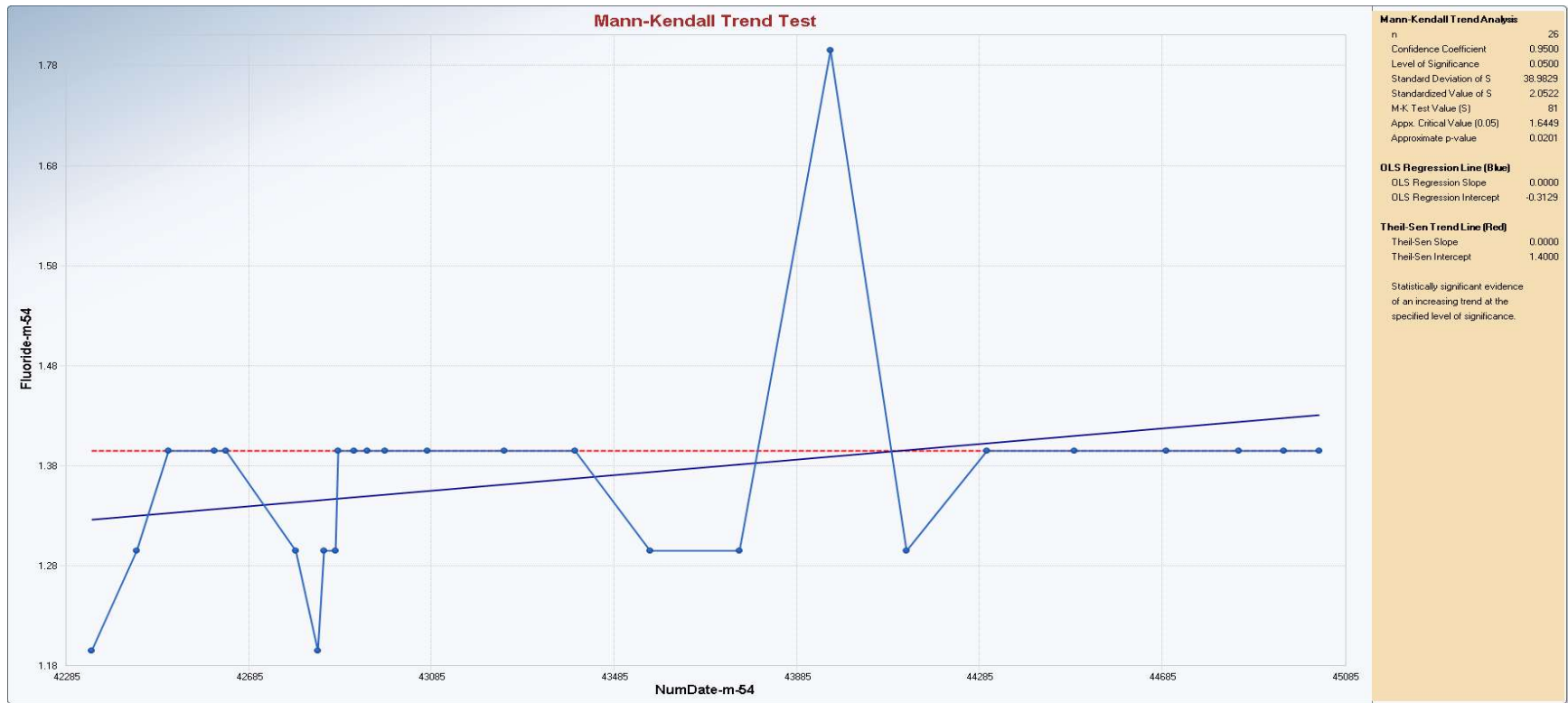
Appendix B Time Series Plots



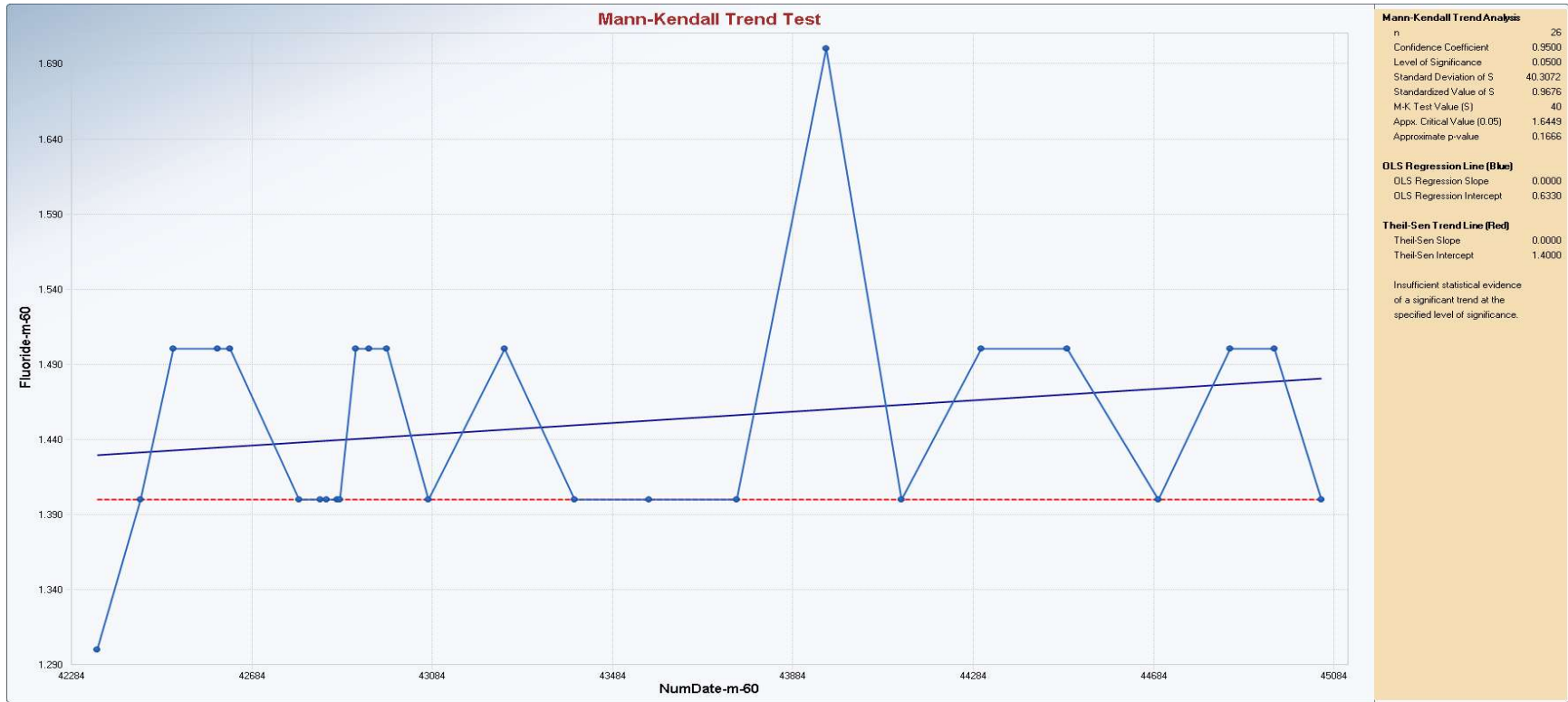
Appendix B Time Series Plots



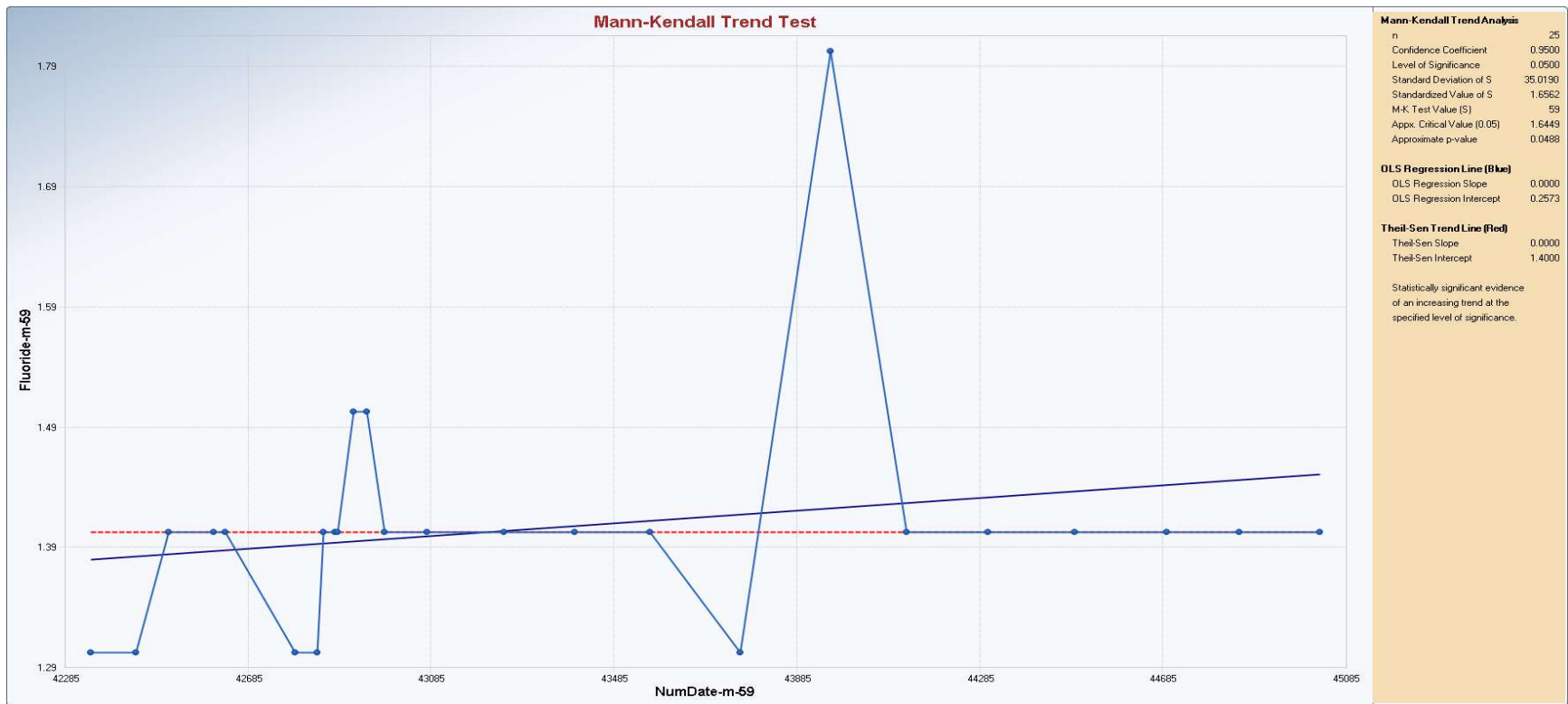
Appendix B Time Series Plots



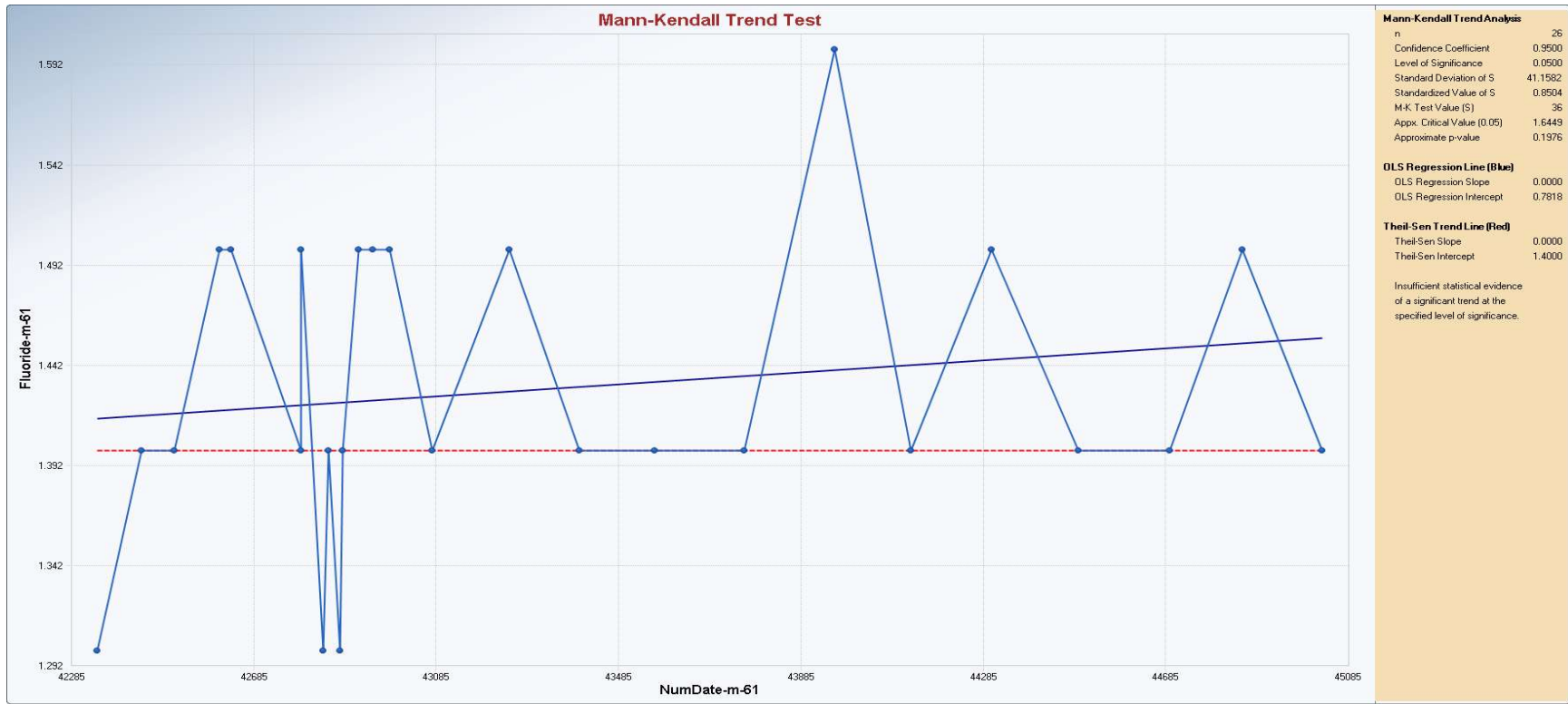
Appendix B Time Series Plots



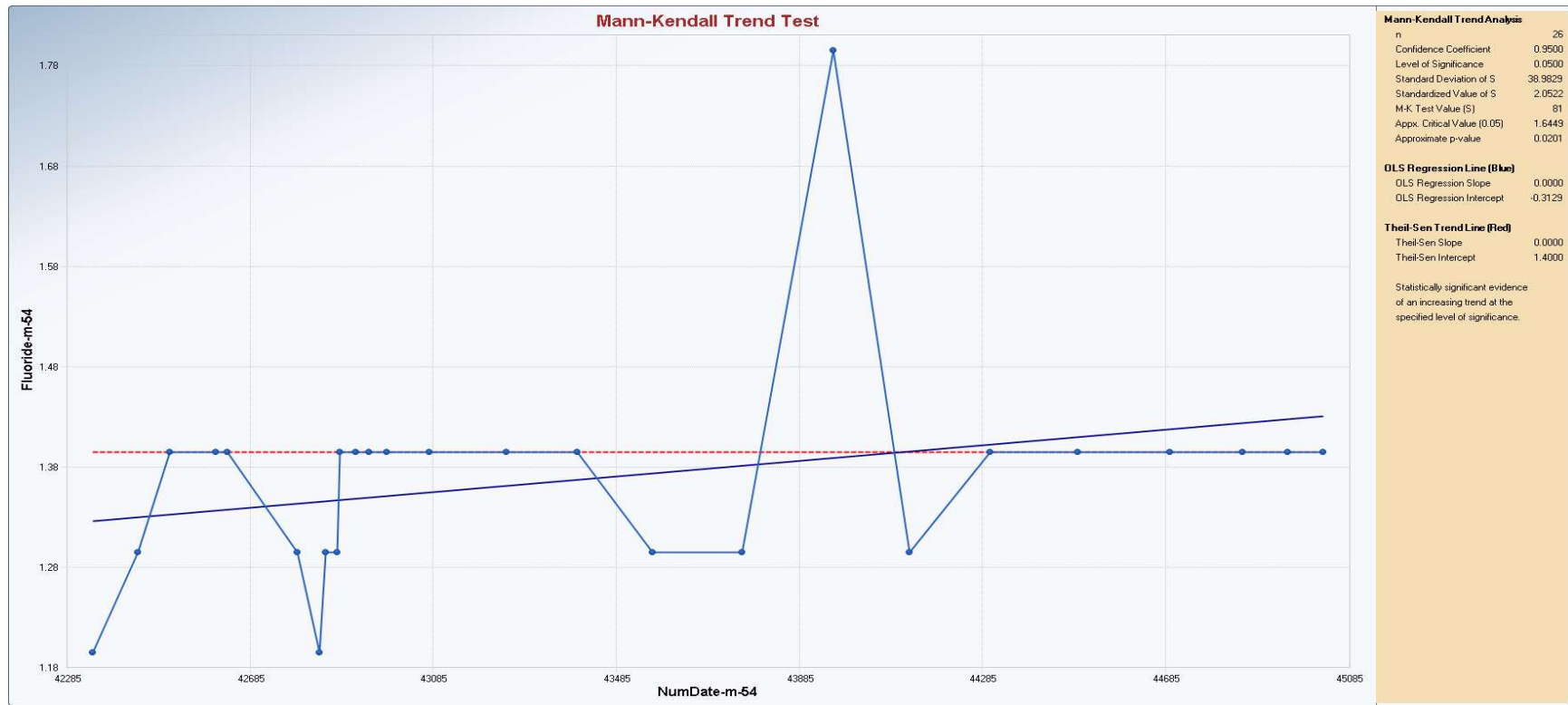
Appendix B Time Series Plots



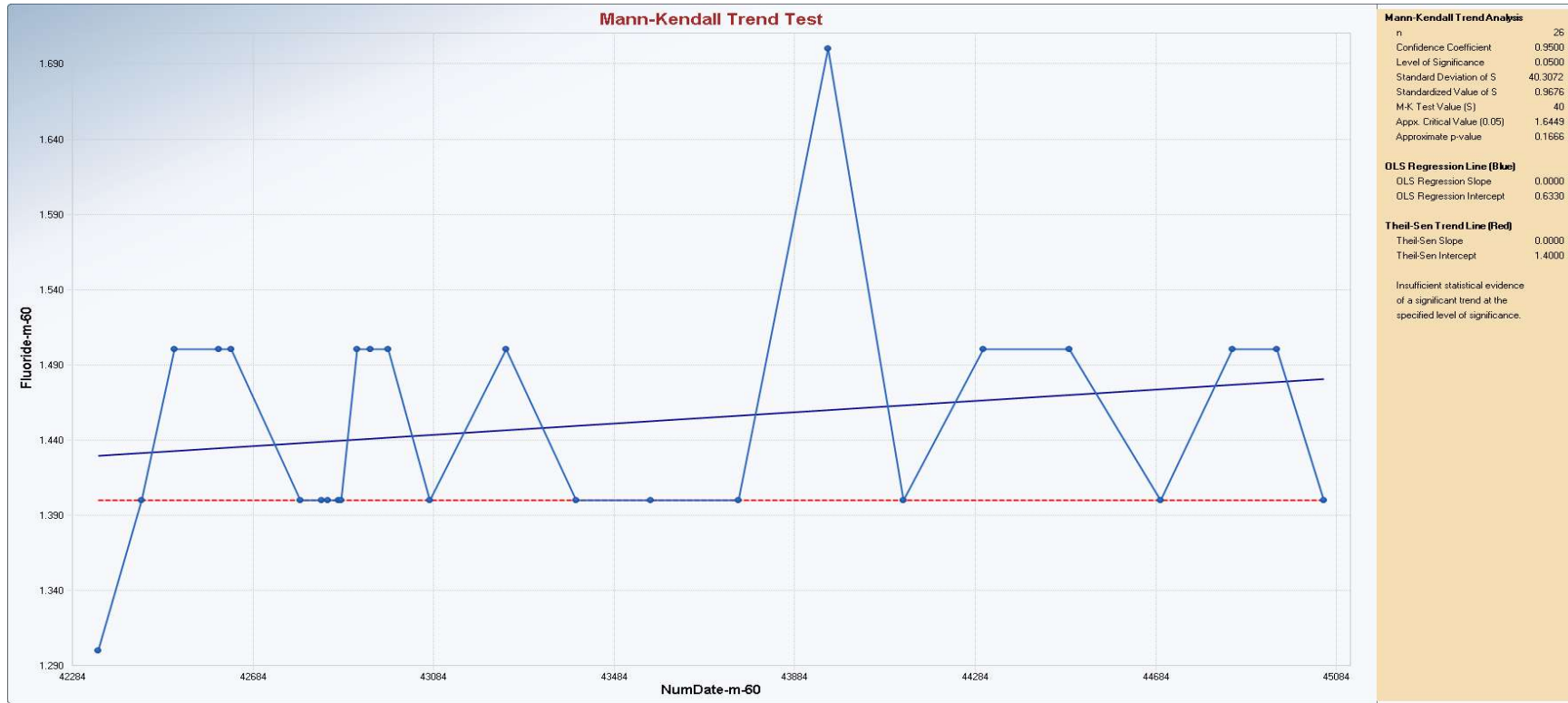
Appendix B Time Series Plots



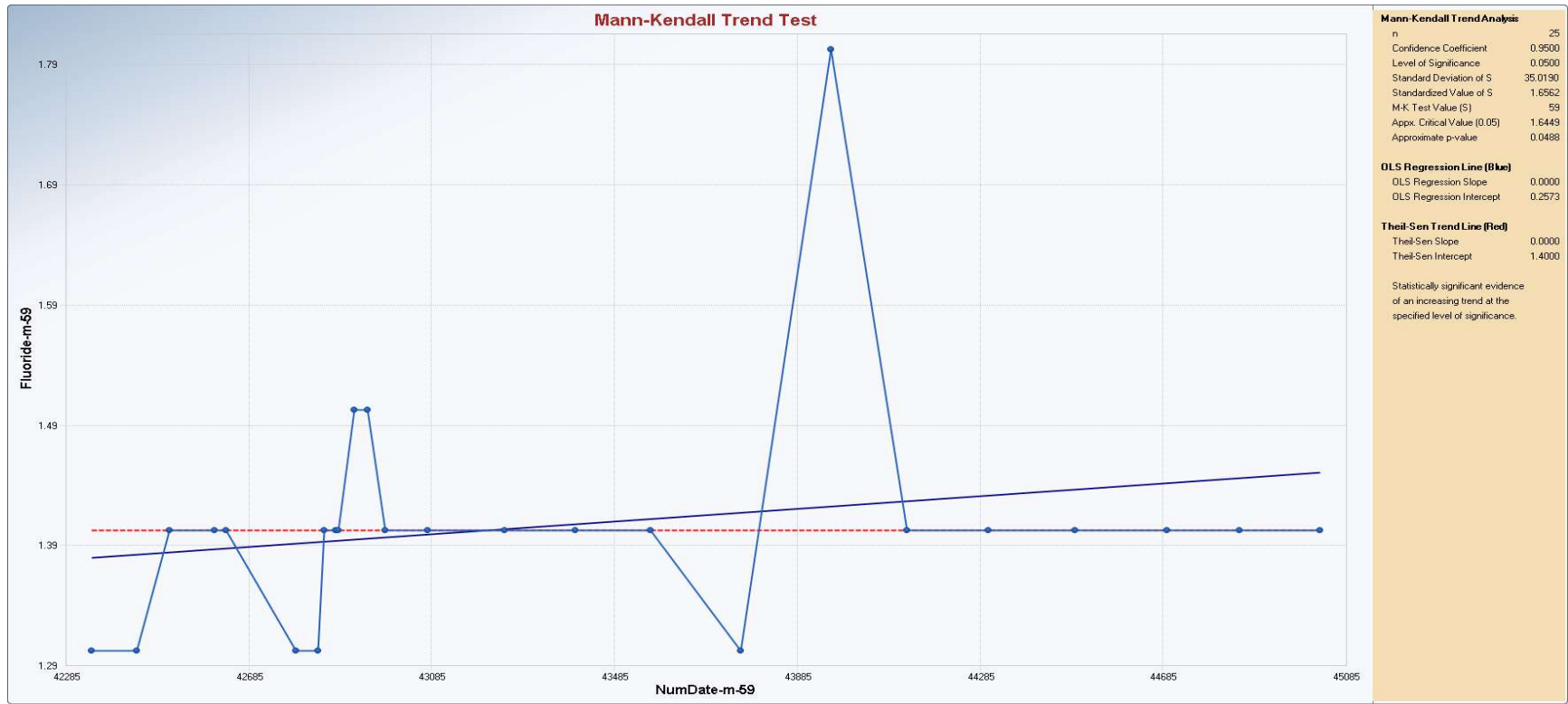
Appendix B Time Series Plots



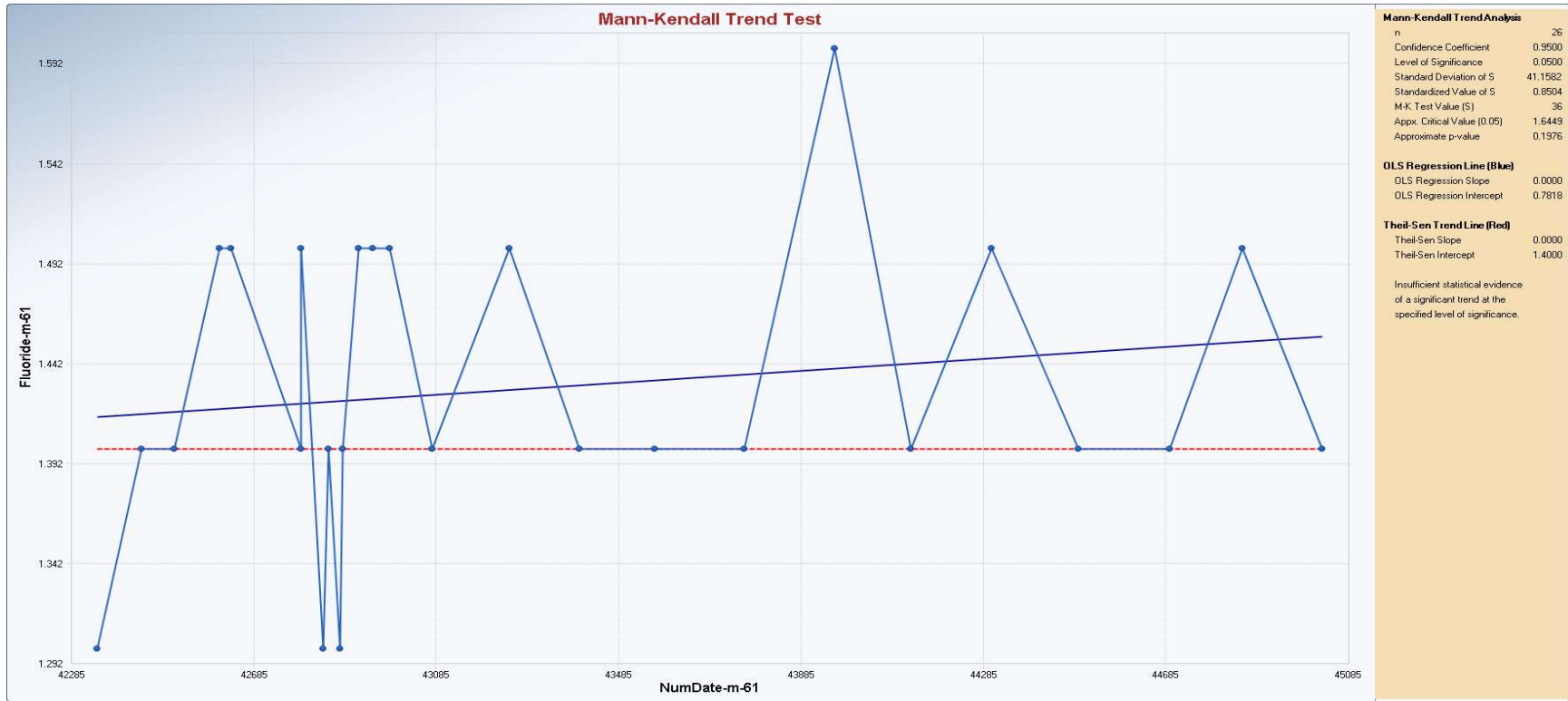
Appendix B Time Series Plots



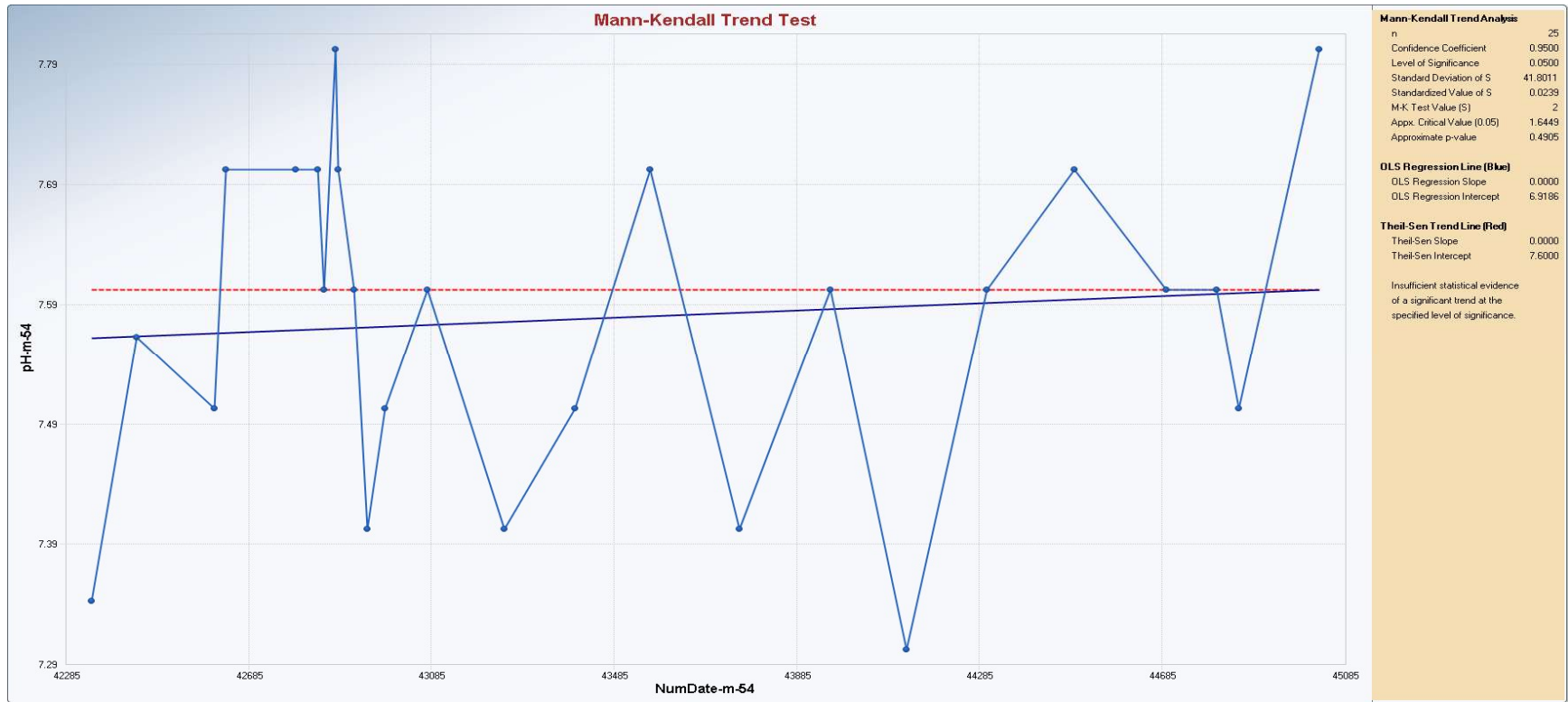
Appendix B Time Series Plots



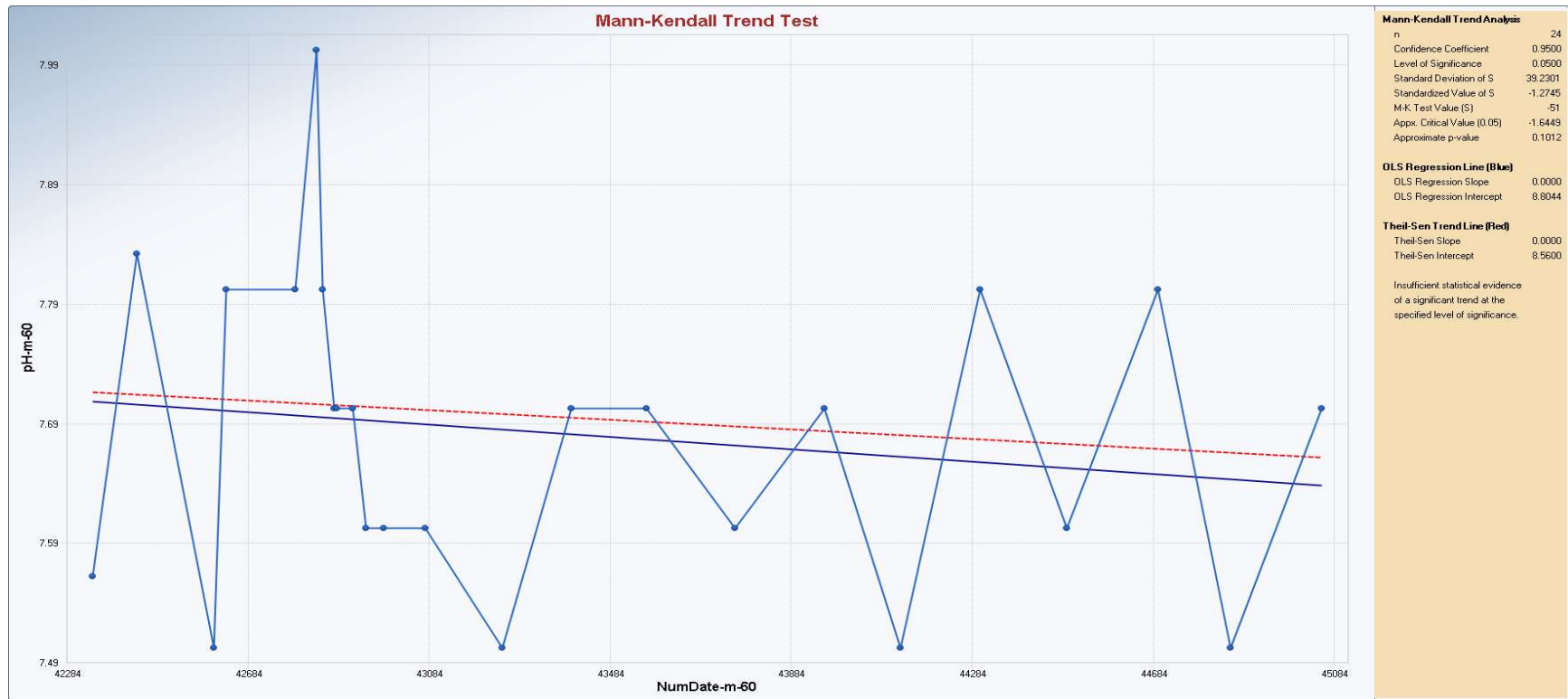
Appendix B Time Series Plots



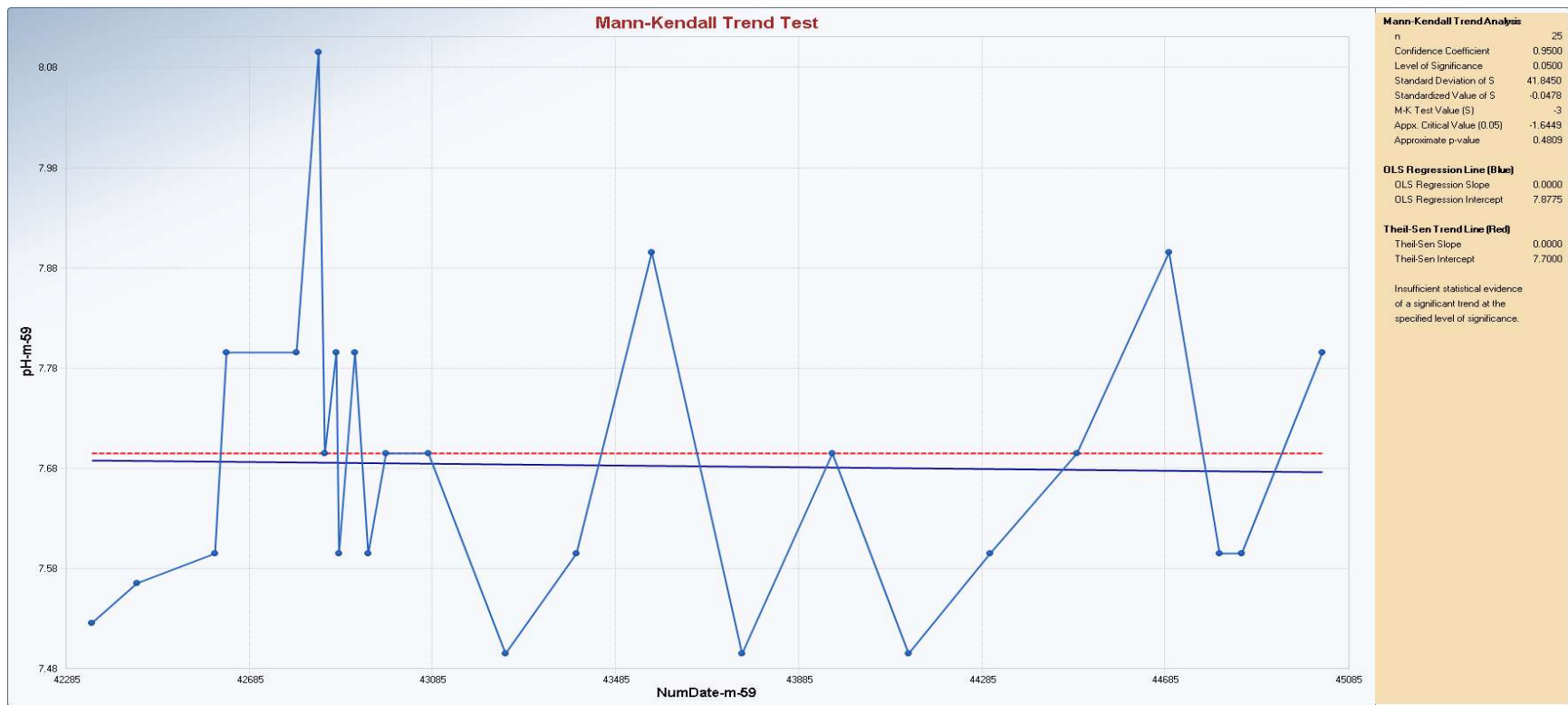
Appendix B Time Series Plots



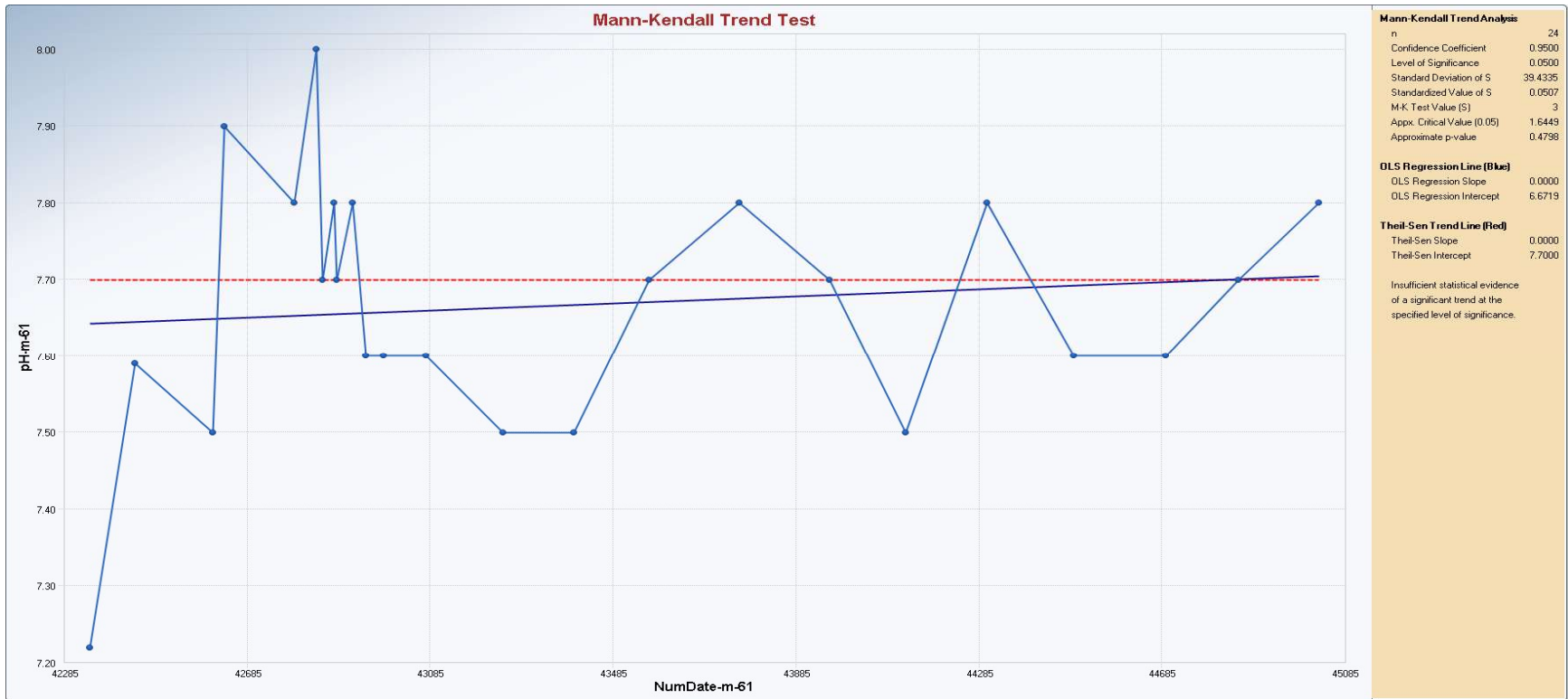
Appendix B Time Series Plots



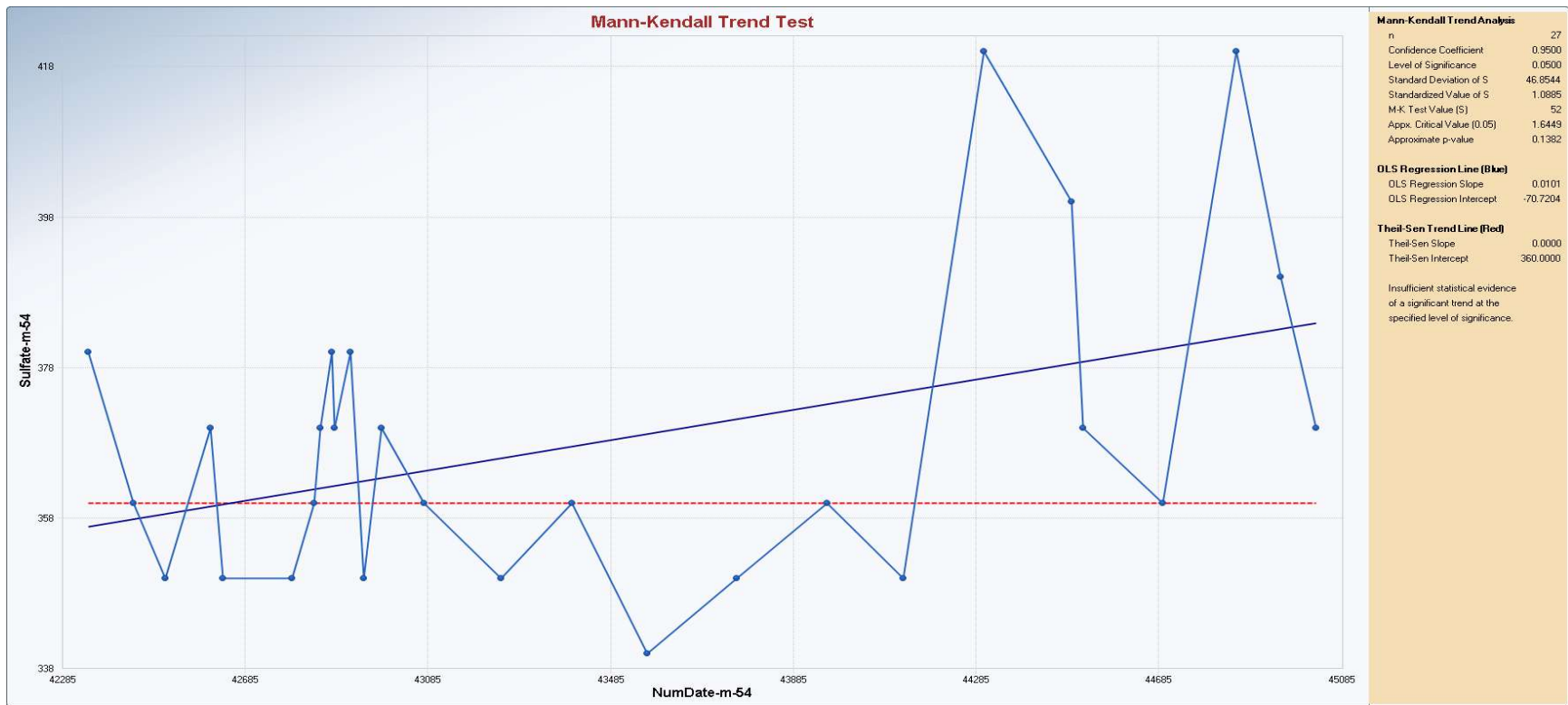
Appendix B Time Series Plots



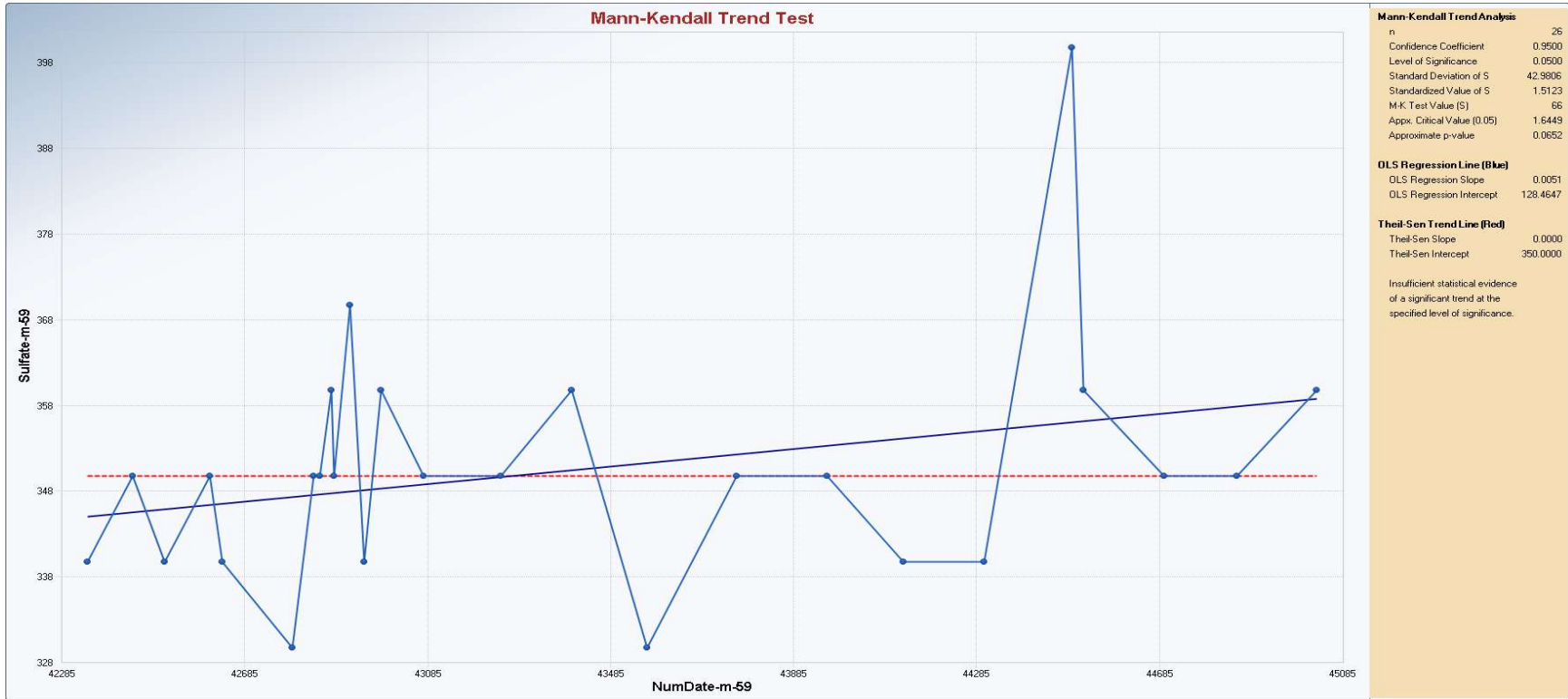
Appendix B Time Series Plots



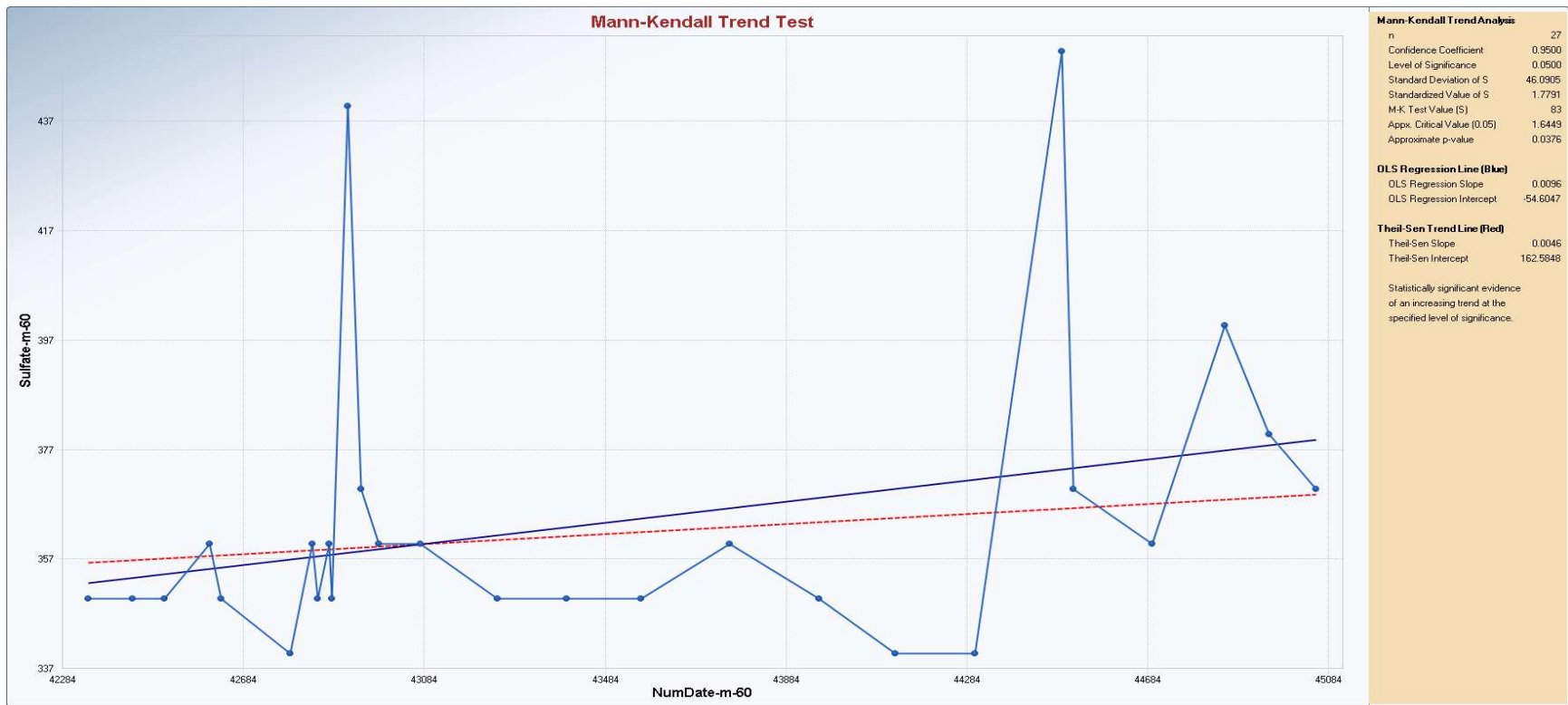
Appendix B Time Series Plots



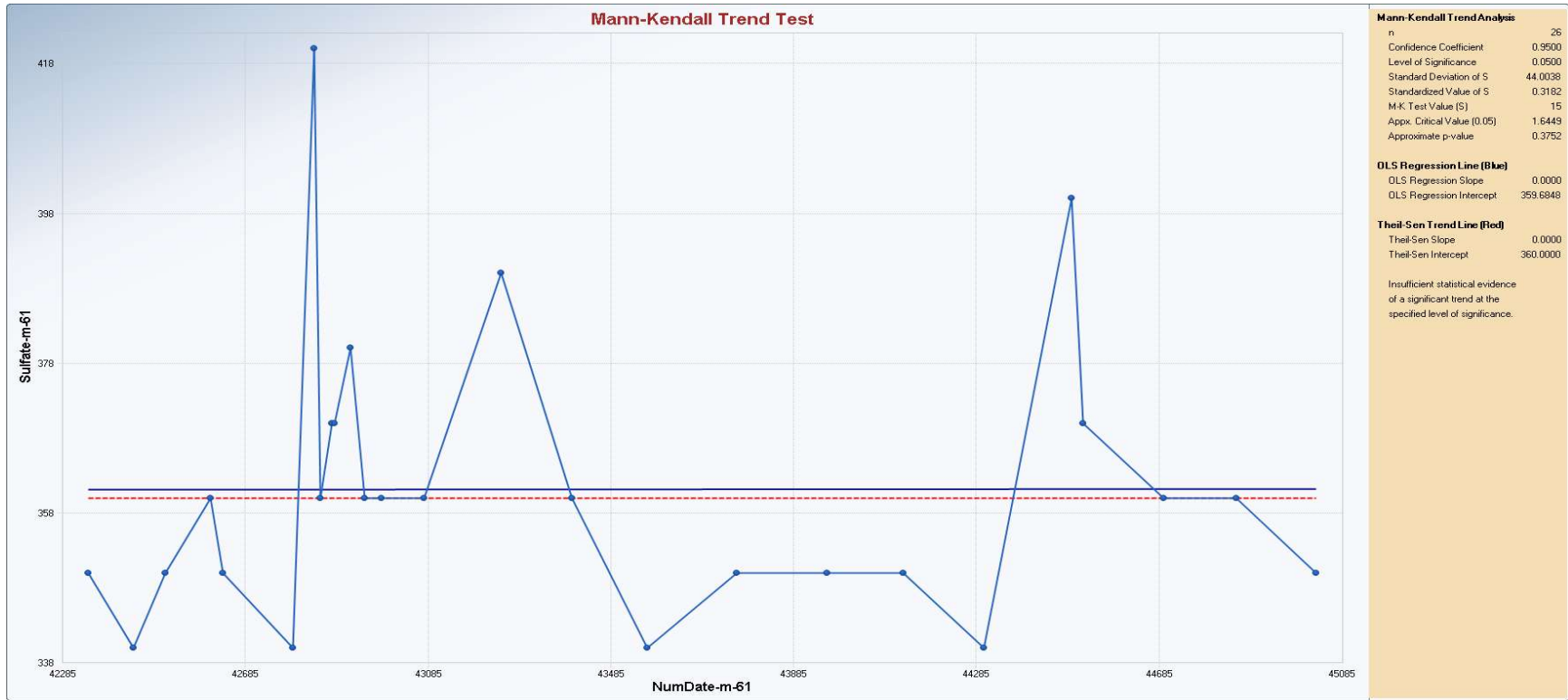
Appendix B Time Series Plots



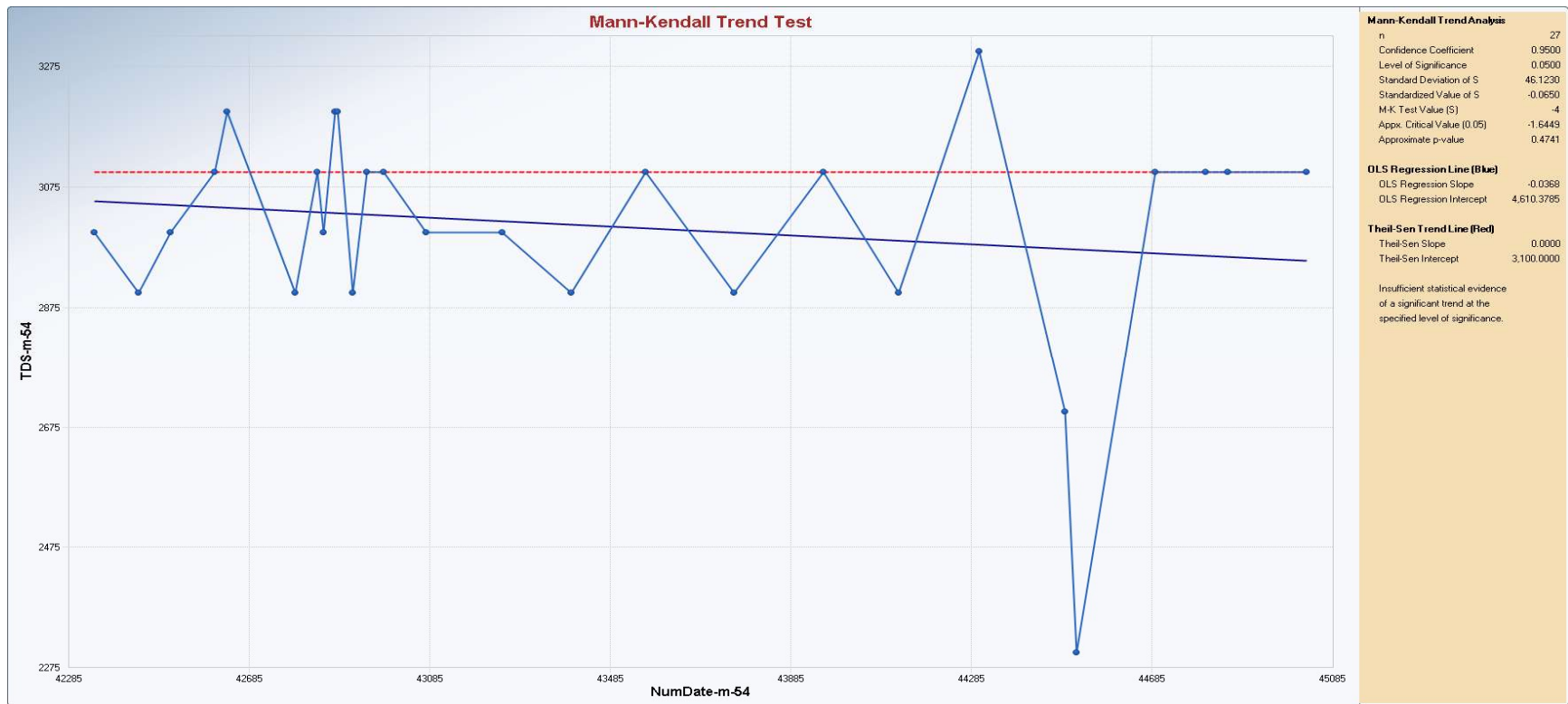
Appendix B Time Series Plots



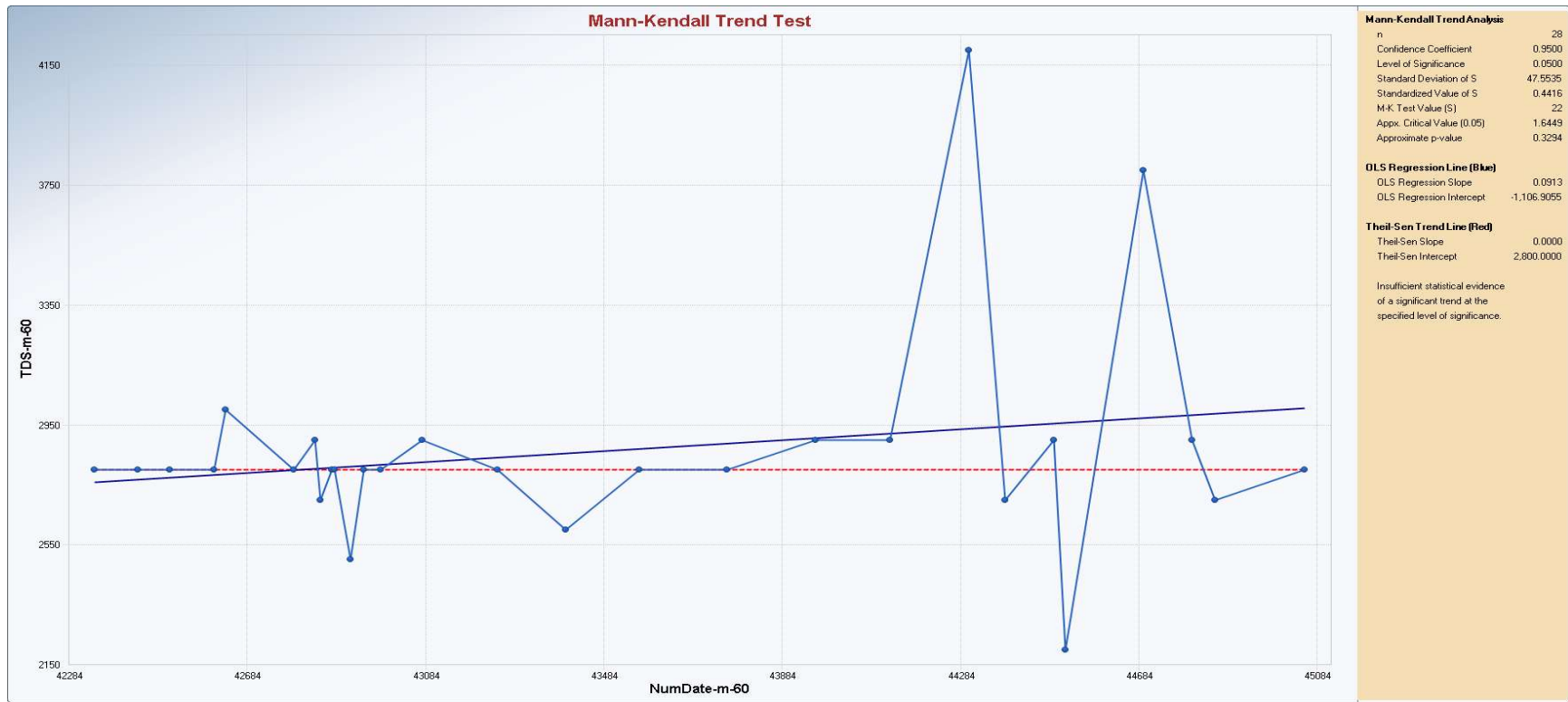
Appendix B Time Series Plots



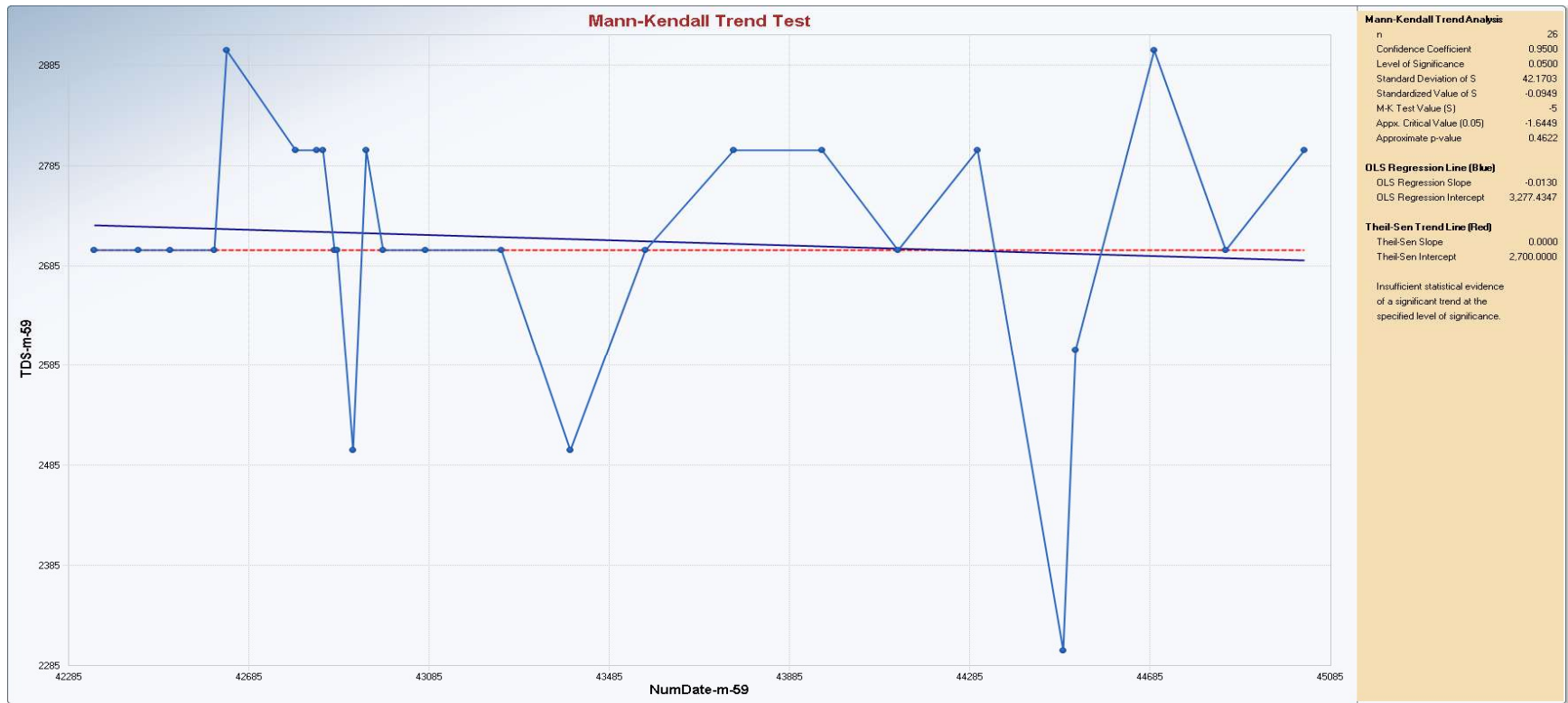
Appendix B Time Series Plots



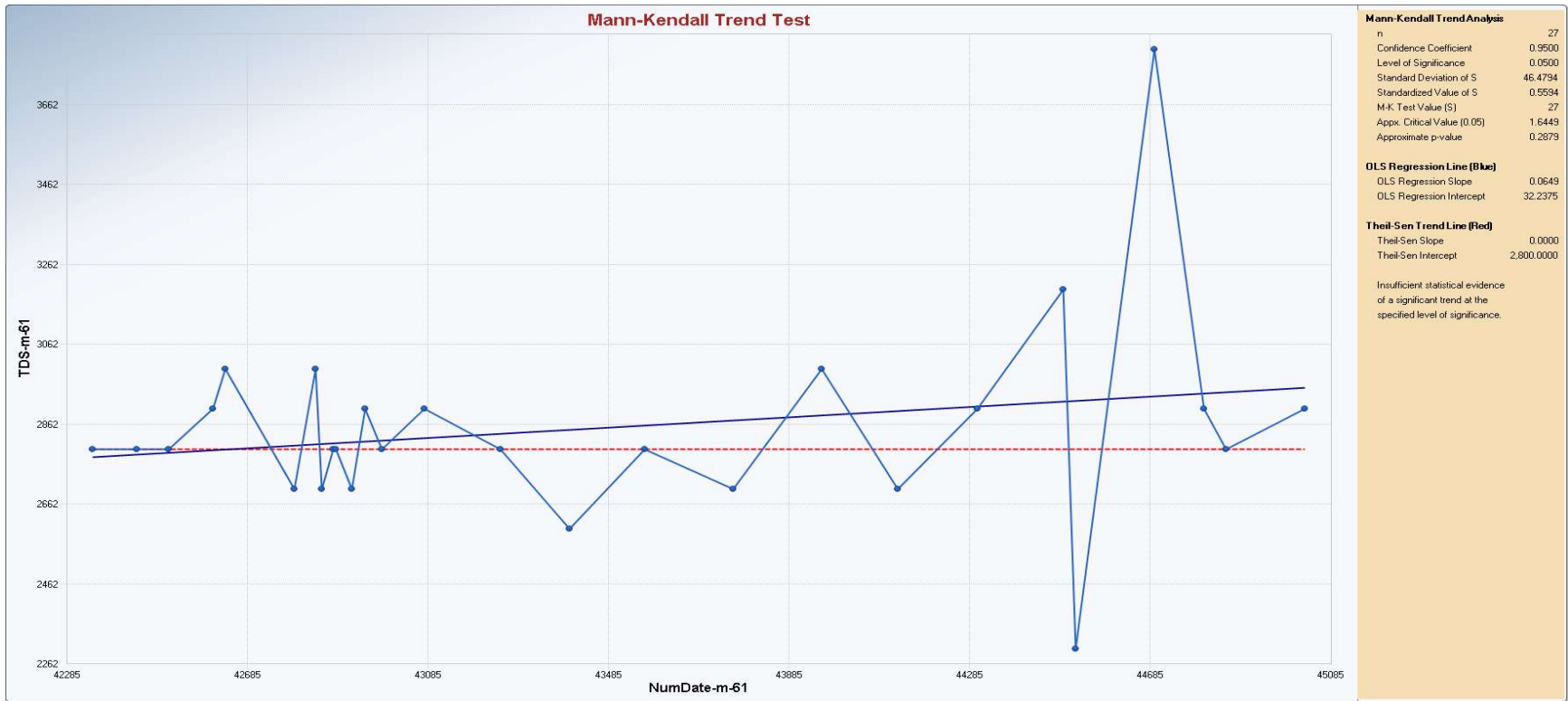
Appendix B Time Series Plots



Appendix B Time Series Plots



Appendix B Time Series Plots



APPENDIX

G

FAP SEEPAGE SYSTEM
INSTALLATION CONSTRUCTION
COMPLETION REPORT

ARIZONA PUBLIC SERVICE COMPANY (APS)

FLY ASH POND (FAP) SEEPAGE
INTERCEPT SYSTEM INSTALLATION
COMPLETION REPORT
CHOLLA POWER PLANT
JOSEPH CITY, ARIZONA

AUGUST 24, 2023

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





FLY ASH POND (FAP)
SEEPAGE SYSTEM
INSTALLATION
COMPLETION REPORT
CHOLLA POWER PLANT
JOSEPH CITY, ARIZONA
APS

PROJECT NO.: 14.2021.2034
DATE: AUGUST 24, 2023

WSP USA ENVIRONMENT & INFRASTRUCTURE INC.
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Senior Civil Engineer

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ABBREVIATIONS AND ACRONYMS

APS	ARIZONA PUBLIC SERVICE
BAM	Bottom Ash Monofill
BAP	Bottom Ash Pond
CCR	Coal combustion residuals
CFR	Code of Federal Regulations
EW	Equip five new wells
FAP	Fly Ash Pond
HDPE	high density polyethylene
HOA	Hand-Off-Auto
TDH	Total dynamic head
SEDI	Sedimentation Pond

1 PROJECT SUMMARY

1.1 PURPOSE

Arizona Public Service Company (APS) is the largest electric utility in Arizona, and the principal subsidiary of publicly traded S&P 500-member Pinnacle West Capital Corporation. APS and PacifiCorp jointly own and operate the Cholla Generating Station located near Joseph City. The generating station generates electricity by burning sub-bituminous coal and uses cooling water from the man-made Cholla Lake. As part of its onsite operations, APS installed monitoring wells, extraction wells, and seepage intercept trenches downgradient of the Fly Ash Pond (FAP) in the Geronimo and Hunt areas to intercept potentially impacted groundwater. Wells were recently installed in the Geronimo seepage intercept area as part of Corrective Measures to address groundwater impacts resulting from the FAP. APS is conducting corrective action activities to support compliance with coal combustion residuals (CCR) corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020).

This document provides a final completion description of the system constructed at the FAP to equip 5 recently installed extraction wells and 4 existing wells and sumps with pumps and piping to facilitate extraction of water from this area, as part of Corrective Measures installed as CCR Remedy.

1.2 FACILITY AND CCR UNIT DESCRIPTION

Facility Description. Cholla is a coal-fired power plant that had two electric generating units (Units 1 and 3) in operation during 2022. Units 1 and 3 with a combined nameplate capacity of 425.9 megawatts are owned and operated by APS. Unit 4 was retired on December 24, 2020. Coal burned at the plant was previously sourced from the McKinley Mine in New Mexico. When the McKinley Mine closed in 2009, the source of coal switched to the Lee Ranch and El Segundo mines near Grants, New Mexico.

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

CCR Unit Description. Plant infrastructure includes four single CCR units referred to as the Fly Ash Pond (FAP), Bottom Ash Pond (BAP), Bottom Ash Monofill (BAM), and Sedimentation Pond (SEDI). All the CCR units except the SEDI are located north of I-40. The SEDI was the first of the CCR units placed into service in 1976. The FAP and BAP dams were completed in 1978, and the BAM came into operation in the late 1990s.

The FAP is located north of the I-40 Interstate and east of the Plant. The Geronimo seepage collection area is located south of the FAP dam, north of I-40, while the Hunt seepage collection area is located south of both the FAP and the I-40.

APS has installed monitoring wells, extraction wells, and seepage intercept trenches down gradient of the FAP to intercept potentially impacted groundwater.

APS has contracted with WSP USA Environment & Infrastructure Inc. (WSP) for design services to equip five new wells (EW-01, EW-02, EW-03, EW-04, GSX-1R) with well pumps, flow regulators, flow meters, valves, piping, and all required electrical and instrumentation for each of the wells. Three existing sumps (GSX-4, GSX-3, Hunt A) and one existing well (HSX-1) have also been upgraded by adding flow regulators, flow meters, new level sensors, hour meters, additional valving, piping as needed and associated electrical work. The extracted water will be pumped via the 2-inch existing discharge piping system for the Geronimo and Hunt Seepage Areas. The 2-inch discharge piping drops into a 4.5-inch pipeline with atmospheric break that converts the flow to gravity flow as it flows back to the main Cholla facility for use. The project also includes replacement of two totalizing turbine meters with magnetic flow meters. After the Plant ceases operation, the water will be diverted to a future evaporation pond utilizing the existing discharge piping and disposed of there. Piping was modified to ensure full pipe flow and provide a bypass line to allow for easier meter maintenance. Air release valves have been provided at each flow meter. The as-built drawings for this system are provided in **Appendix A**.

1.3 CONSTRUCTION TEAM

Contractor: Allied Power

- Edwin (Dave) Bitner, Project Manager, edwin.bittner@aps.com
- Jess Edmenson, Project Superintendent, jedmenson@alliedpwr.com
- James (Quentin) Scott, Project Superintendent, James.Q.Scott@aps.com
- JBar4 subcontractor for piping and civil

Construction management: Mountain West Consulting

- Terry Stewart
- Stephen (Milo) Nicholson

WSP oversight:

- Maren Henley, Project Manager
- Becky Weaver, Project Engineering Oversight, Civil, Mechanical
- Andrea Kagie-Hay, Certifying Engineer, Civil, Mechanical
- Brad Rohwer, Design Engineer, Electrical
- Jeff Jorgensen, Certifying Engineer, Electrical
- Darren Mack, Field Engineering Oversight

APS

- Byron Conrad, Project Manager (retired September 2022)
- Kurt Adams, Project Manager
- Natalie Chrisman-Lazarr, Environmental Engineer
- Ray Markley, Geotechnical Engineer
- Cody Miller, Onsite Environmental Lead

2 EXISTING FACILITIES

2.1 GERONIMO

The Geronimo seepage intercept collection system consists of two intercept trenches connected to two collection sumps, Geronimo C (GSX-3) and Geronimo D (GSX-4), and two seepage extraction wells, Geronimo A (GSX-1) and Geronimo B (GSX-2). The two original extraction wells (GSX-1 and GSX-2) were abandoned in a previous project, while 5 new extraction wells (EW) were installed, EW-01 through EW-04 and GSX-1R. For this project, the five new extraction wells were equipped with pumps and associated valves, piping, meters, and level control to provide the ability to extract groundwater as part of their remediation work. All five wells are constructed with a 6-inch diameter schedule 80 PVC well casing within a 10-inch well borehole. Each well also has a 10-inch outer casing installed that extends from approximately 2-3 feet above grade to approximately 5 feet below grade. This project also included the upgrade of the existing sumps by adding valves, piping, meters and replacing the level controls, matching the new well equipment where possible. See the table below for the existing well construction details for the 5 extraction wells and 2 sumps located in the Geronimo seepage area.

2.1.1 WELLS

The wells on the Geronimo side are summarized in the Table 2.1 below.

Table 2.1 Geronimo Well Details

WELL	GROUND SURFACE ELEV. (ft amsl)	TOTAL DEPTH (ft bgs)	SCREEN INTERVAL (ft bgs)		SCREEN ELEV. (ft amsl)		BEFORE CONSTRUCTION STATIC WATER LEVEL (ft bgs)
			FROM	TO			
EW-01	5035.09	55	20	50	5015.09	4985.09	22.5
EW-02	5034.01	53	18	48	5016.01	4986.01	19.67
EW-03	5035.20	52	17	47	5018.20	4988.20	23.04
EW-04	5037.18	24	9	19	5028.18	5018.18	0.2
GSX-1R	5035.85	54	29	49	5006.85	4986.85	23.49

Notes: Vertical datum is North American Vertical Datum 1988, horizontal coordinate system is NM West State Plane (ft), North American Datum 1983

Notes: bgs- below ground surface, ft - feet/foot, amsl - above mean sea level

2.1.2 SUMPS

The sumps on the Geronimo side are summarized in the Table 2.2 below.

Table 2.2 Geronimo Sump Details

WELL / SUMP NO.	GROUND SURFACE ELEV. (ft amsl)	TOTAL DEPTH (ft bgs)	WELL / SUMP DIA. (in)
GSX-3	5036.46	10.5	48
GSX-4	5035.00	10.5	48

Notes: Vertical datum is North American Vertical Datum 1988, horizontal coordinate system is NM West State Plane (ft), North American Datum 1983
 Notes: bgs- below ground surface, ft - feet/foot, amsl - above mean sea level

2.2 HUNT

The Hunt seepage intercept collection system consists of one intercept trench connected to one collection sump, Hunt A, and one extraction well, HSX-1 (Hunt B). This project will upgrade the existing Hunt sump and well by adding valves, piping, meters and replacing the level controls, matching the new well equipment where possible. The existing well construction details for the sump and extraction well located in the Hunt seepage area are summarized below.

The well and sump on the Hunt side are summarized in the Table 2.3 below.

Table 2.3 Hunt Well and Sump Details

WELL / SUMP NO.	GROUND SURFACE ELEV. (ft amsl)	TOTAL DEPTH (ft bgs)	WELL / SUMP DIA. (in)	SCREEN INTERVAL (ft bgs)		SCREEN ELEV. (ft amsl)	
				FROM	TO		
Hunt A	5032.80	9.5	48	-	-	-	-
HSX-1	5032.80	49	5	19	49	5013.80	4983.80

Notes: Vertical datum is North American Vertical Datum 1988, horizontal coordinate system is NM West State Plane (ft), North American Datum 1983
 Notes: bgs- below ground surface, ft - feet/foot, amsl - above mean sea level

The Hunt trench conveying water to Hunt A does not seem to be receiving any water. In July 2022, 4 potholes along the length of the trench were dug to inspect the trench’s condition. Water was found in 1 of the potholes, and the pipe was exposed and seemed to be clogged. In August 2022, JBar4 repaired the trench in the pothole locations back to original conditions. They placed a new section of pipe placed in gravel, wrapped by fabric and a mesh netting was placed slightly below grade.

2.3 COMBINED FACILITIES

Each sump and well discharge pipe connects to a common 2-inch header pipeline. The below-grade consists of 2-inch-high density polyethylene (HDPE) piping that is assumed buried with a minimum of 3 feet of cover to minimize the potential for freezing. The frost depth in this area can extend approximately 12-24 inches below grade.

2.3.1 HUNT FLOW METER

The common pipeline from the Hunt seepage area travels west parallel to the I-40 until it reaches an underpass where it travels north of the I-40. The flows from the Hunt sump and well are measured in a new magnetic flow meter (replacing the existing turbine flow meter) located north of the I-40. This piping continues north until it meets with the discharge piping from the Geronimo seepage area below ground.

2.3.2 COMBINED FLOW METER

The combined discharge from the Hunt and Geronimo seepage areas is measured in a new magnetic flow meter before it tees off to drop into a 6-inch steel pipe that goes to the Cholla facility. The 2-inch discharge pipe also can continue up the hill to pump into the FAP; however, this option is not used currently. The combination of dropping into a larger pipe and the atmospheric break from the alternate routing means the water flows by gravity in the 6-inch pipe back to the Cholla facility.

3 CIVIL & MECHANICAL

3.1 WELL PUMP INSTALLATION

The five new wells are equipped with a submersible pump with a shroud, pressure transmitter for level control and measurement in the well, piping, valves, flow regulator, flow meter, sampling/flow measuring port, pressure gauge and switch, and heat tracing with insulation on the above-grade piping. Flow regulators are designed with no mechanical parts and an EPDM orifice that is compressed by the fluid to regulate the flow to a constant rate with varying pressures due to static and dynamic head loss changes. The flow regulators are threaded and are installed with a union downstream to allow for regulators to be changed out as needed to achieve the desired flow rates.

Each pump is designed to be operated with a control panel that is able to provide level pump control for on/off operation and a Hand-Off-Auto (HOA) switch for manual control. Each control panel has a pump run time meter, and a pressure switch as a safety permissive. The pump is not allowed to run when pressures in the discharge line exceed the setpoint. Once pressures reduce to the acceptable set point, the pump will be allowed to operate.

New wells are equipped with a Grundfos 5SQ05-90 pump, with a ½-hp motor, capable of operating at an average of 5 gallons per minute (gpm) at a total dynamic head (TDH) of 100 feet. Each well has a flow regulator valve installed that is designed for 0.5 gpm up to 5 gpm, based on the well development data as well as conditions during start-up.

Each pump is installed with a shroud, set at a depth such that the shroud intake (bottom of pump) is located approximately 2 feet above the bottom of the well. These well pumps have 1-inch stainless steel column piping that transition to ½ inch stainless steel piping above grade. The anticipated pumping rates for these new wells are between 0.5 and 5 gpm. The goal is for the flow rate to be selected that allows nearly continuous pumping at each well; however, the wells will also operate as fill and draw, as water levels and recoveries dictate.

3.2 SUMP UPGRADES

The existing sumps and well have been upgraded to provide improved operation and measurement capability for each well. Each sump/well piping has been modified to include a flow meter, flow regulator, air release valve, and pressure switch. The existing level control probes have been replaced with a pressure transducer for level control and to provide level readout at each well. Hour meters have been provided at each control panel for each pump. The following section discusses this equipment in more detail.

3.3 PIPING AND APPURTENANCES

Each well was installed with piping, valves, flow meter, flow regulator and controls to provide a completely functioning system capable of operating automatically or manually. The wells operate independently of each other but discharge into a common header. The flow regulator is constructed with an EPDM orifice that reacts/distorts to the pressure in the line to maintain a relatively constant flow rate for each well, as desired.

Several flow regulators with different flow rates are provided for each well / sump and can be changed out seasonally, or as well production changes over time.

Each well / sump is equipped with the following equipment and appurtenances located above the well, except for the level transmitter, which is installed in the well:

- Pressure transmitter for well level and pump controls
- Level indicator/readout
- Flow regulator
- Check valve
- Magnetic flow meter
- 3-way ball valve for sampling and manual flow measurement
- Ball valve for isolation
- Air/vacuum valve with isolation ball valve
- Pressure gauge and pressure switch assembly
- Heat trace and insulation

The new wells are outfitted with a well flange with modifications to accommodate the required equipment. The outer well conductor casings on each new well has been modified by cutting the existing cap and welding a slip-on flange to the well casing. A custom blind flange has been provided with threaded holes, open holes, and holes with short, welded carbon steel pipe nipples to accommodate the piping and equipment. A ½-inch threaded hole on the blind flange provides for attachment of a ½-inch well vent for each well. Two ½-inch and one 1-inch carbon steel pipe nipples have been welded to the blind flange to allow connection and support for the pump discharge piping, and access for the pump power cable and the pressure transmitter, respectively. Each well also has a 1-inch sounding tube installed to allow for manual water level measurements. The well level readout from the pressure transmitter is accessible in the control panel.

The existing sumps and well reuse the level control probe conduit for the new level pressure transducer. The pump and power connections have not been modified. The well level readout from the pressure transmitter is accessible in the control panel.

Each flow meter measures instantaneous flow rate and has a totalizer for manually recording accumulated flows. The air/vacuum release valve has been installed at a high point in the piping to avoid air lock of the flow in the pipeline. The three-way ball valve can be used for sampling the water, or for manual flow measurement through timed water volume measurements. The three-way ball valve handle is either turned for straight flow through to the common pipeline, or for 90-degree flow through the sampling port. All above-ground piping has been insulated and provided with heat tracing to ensure the water in the piping will not freeze.

4 ELECTRICAL

4.1 EXISTING PANELS

The existing sumps and well have been upgraded to provide improved operation and measurement capability for each well. The existing electrical equipment has been upgraded to include the addition of new starter panels, level controls, flow meters and pressure switches. Hour meters have been provided at each control panel for each pump. The following section discusses this equipment in more detail.

4.2 NEW PANELS

The well pumps have been installed with a local control panel at each well. The pumps will turn on and off based on level measurements from the pressure transmitters installed in each well. The on and off set points are user-adjustable in the field. The flow rates are dictated by a flow regulator that has a specified flow rate. The flow regulator is relatively easy to change, if needed seasonally or as water levels change over time. The control panel has an HOA switch to allow for manual operation when performing maintenance, testing, or other in-field pumping operations. A level indicator was installed on each control panel and reads water levels in feet below ground surface.

Having 3 sumps and 6 wells on one discharge system without interlocking controls means that under certain conditions, smaller flow wells may be overpowered by larger flow wells if the pressure in the line becomes too high. A hydraulic model was developed for the system and the results indicate that all pumps can operate at the same time at slightly lower rates than targeted for some of the smaller wells, when installed with flow control valves at the target flow rates. Without flow control valves, three of the smaller wells would not be able to pump when all pumps are on at the same time. The model may not allow for a complete and accurate picture, as ground surface elevations are estimated in some cases, and the existing piping sizing, conditions, and routing were estimated from available information. As a precaution based on the model accuracy, and the potential for flow control valves to be removed from the pipeline, each well was equipped with a pressure switch that will be set with a high level to turn off the pump and prevent it from pumping if the discharge pressure is too high. Once the pressure is reduced to below the set range, the pump will be allowed to operate again. This is to prevent pumps from operating at higher pressures when it may be unable to pump water.

4.3 PUMP CONTROLS

The pumps are controlled by a pressure transmitter set in each well as described in Table 4.1.

Table 4.1 Pump Controls Set in Field

WELL / SUMP NO.	TARGET PUMP RATE	INSTALLED REGULATOR RATE	PUMP ON		PUMP OFF		TRANSMITTER SET DEPTH (bgs)
			DEPTH (bgs)	TRANSMITTER SET POINT (ma)	DEPTH (bgs)	TRANSMITTER SET POINT (ma)	
EW-01	1.5	1.0	25	10	49.3	4.2	49.8
EW-02	5.0	4.0	25	10	48.5	4.2	49
EW-03	5.0	4.0	20	9	45.5	4.2	46
EW-04	2.5	1.5	15	7.5	18.7	4.2	19.2
G SX-1R	0.75	0.75	20	9	47.3	4.2	47.8
G SX-3	30.0	25.0	8.7	4.5	9.5	4.02	9.6
G SX-4	30.0	25.0	10.8	4.5	11.7	4.02	11.8
H SX-1	13.0	11.0	35	12.5	40.7	4.2	41.2
HUNT-A	25.0	20.0	4.5	4.5	6.4	4.02	6.5

Notes: bgs- below ground surface, ft - feet/foot, amsl - above mean sea level

5 FIELD TESTING AND INSPECTION

5.1 CONSTRUCTION OVERSIGHT

The Geronimo and Hunt well and sump upgrades were completed by Allied Power as the prime contractor, and the civil work was subcontracted and completed by JBar4. Along with WSP’s oversight, Mountain West Consulting provided onsite construction management. Allied Power and WSP documented their activities with Construction Reports and field notes included in **Appendix B**. Construction photos are included in **Appendix C**. **Table 5.1** below lists the dates WSP staff were onsite, and a brief description of activities completed during each visit.

Table 5.1 WSP Construction Oversight

DATE	PERSONNEL	ACTIVITY
9/1/2022	Darren Mack	Civil trench work
9/15/2022	Darren Mack	Setting adapters to well, electrical work on control panels
9/21-9/22/2022	Darren Mack	Pressure testing and main header connections
10/6/2022	Darren Mack	Pressure testing and setting pumps
10/11/2022	Darren Mack	Backfilling trenches, materials testing, pump setting
11/3/2022	Darren Mack	Check in on above-ground piping, heat tracing and insulation
11/9/2022	Darren Mack	Check in on above-ground piping, heat tracing and insulation
11/16-11/17/2022	Darren Mack, Andrea Kagie-Hay, Jeff Jorgensen, John Estepa, Leonard Cratic	Walkdown for punch list items as well as resolving leaking ARVs. Also did a site visit of the Bottom Ash Pond and electrical personnel looked at the control panels at the Fly Ash Pond
12/7/2022	Darren Mack	Walkdown for ensure all punch list items completed
12/22/2022	Darren Mack	Walkdown on equipment and fencing
1/18/2023	Darren Mack	Final walkdown and sign off by APS

5.2 PIPELINE PRESSURE TESTING

Allied and JBar 4 conducted the pressure testing for the HDPE piping. Each test was conducted over a 3-hour period where the pipe must hold +/-10% starting pressure. All pipes passed this test and were documented either by Allied or WSP personnel. See **Appendix B** Field Notes for details on pipeline pressure testing.

5.3 MATERIALS TESTING

Speedie Associates was contracted to do the materials testing for this work. A compaction curve was completed on this material which was found to be silty sandy clay with trace gravel. The maximum dry density was 118.4 PCF and the optimum moisture content was 14.1%.

In place density testing of the trenches was completed according to the specifications for a total of 30 tests, 25 on Geronimo and 6 on Hunt. All density tests were acceptable. Test results can be found in **Appendix D**.

6 KEY DEVIATIONS FROM DESIGN

6.1 CIVIL/MECHANICAL

There were a couple key deviations from the issued for construction drawings worth noting:

- The design plans had an 8-inch well diameter, once in the field it was discovered that the well diameter was 10-inch. An adapter flange was welded onto the well casings to downsize to 8-inch.
 - Gravel was placed around the Geronimo sideroad and within the fencing on both Geronimo and Hunt sides. This was done for the safety of field personnel who will be onsite during rainstorms and to keep ice from forming on the ground.
 - Fencing was placed around both GSX-4 and EW-02 together, not separately. This was to ensure field inspectors would only have to unlock 1 gate, as opposed to 2 gates when monitoring.
 - The TWX fencing was replaced but only as repairs to existing fencing and did not include the 2 vehicle swing gates WSP called out in the plans. This upgrade is now proposed to be part of the Bottom Ash Pond upgrades project that is set to be completed early 2024.
-

6.2 ELECTRICAL

- The electrical trenching location deviated from the plans and was routed so that the electrical conduit was placed in a trench alongside the combined HDPE pipe header to keep the utilities in a single area for future maintenance and locating.

7 START UP AND COMMISSIONING

7.1 FINAL WALKTHROUGH

WSP personnel visited the site multiple times during the construction phases. The pre walk through was performed on December 7, 2022 with Milo and Quentin. The goal of this visit was to ensure all equipment was up and running, and to identify any remaining items that Allied needed to address before completion of the system. The final walk through was completed on January 18, 2023 with WSP, Allied, Mountain West and APS personnel attending. At this time, all task items were signed off on and Allied was given a set date (February 6, 2023) for final turnover package to be sent to WSP and APS.

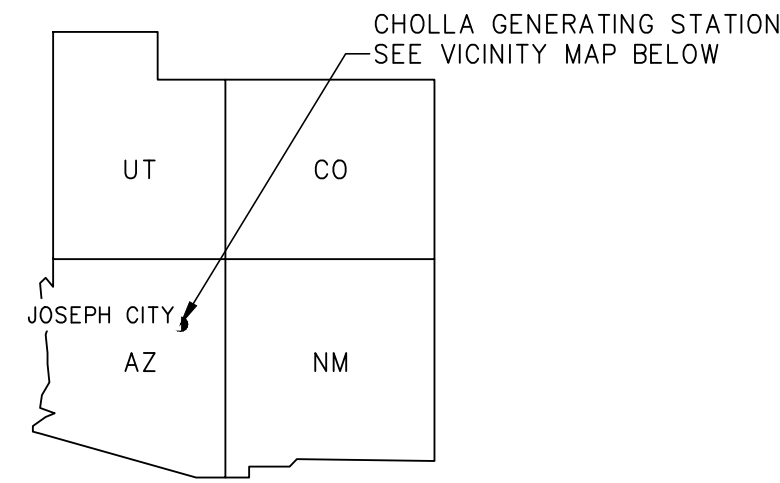
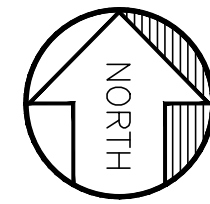
7.2 HAND OVER TO APS

Allied turned over the system on January 18, 2023. The turnover package with all the redlines, manuals, and reports were submitted to WSP and Mountain west on February 8, 2023. **Appendix E** includes the Startup and Commissioning information, final punch list, and pump control setpoints and data.

APPENDIX

A RECORD DRAWINGS





VICINITY MAP
N.T.S.



FLY ASH POND SEEPAGE INTERCEPT SYSTEM EXTRACTION WELL PUMPS INSTALLATION

FOR THE
CHOLLA GENERATING STATION
ARIZONA PUBLIC SERVICE COMPANY
LOCATED IN
JOSEPH CITY, STATE OF ARIZONA

ENGINEER



ENVIRONMENT & INFRASTRUCTURE INC.
4600 E. WASHINGTON ST., SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000
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PLEASE BE ADVISED THAT EFFECTIVE SEPTEMBER 21, 2022, WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC. WAS ACQUIRED BY WSP. DUE TO THE ACQUISITION, WE HAVE CHANGE DOUR NAME TO WSP USA ENVIRONMENT & INFRASTRUCTURE, INC. NO OTHER ASPECTS OF OUR LEGAL ENTITY OR CAPABILITIES HAVE CHANGED FOR THIS DOCUMENT, INCLUDING OUR FEDERAL TAX ID WHICH REMAINS 91-1641772.



LOCATION MAP
SCALE: N.T.S.



VICINITY MAP
SCALE: N.T.S.

SHEET INDEX	
APS NUMBER	DESCRIPTION
CH00CM-X-41-BP-AP-170001-41	COVER SHEET
CH00CM-X-41-BP-AP-230453-1	GENERAL NOTES AND SPECIFICATIONS
CH00CM-X-41-BP-AP-230453-2	STANDARD ABBREVIATIONS
CH00CM-C-06-BP-AP-230454-1	OVERVIEW
CH00CM-C-47-BP-AP-230454-2	GERONIMO SYSTEM PLAN
CH00CM-C-47-BP-AP-230454-3	HUNT SYSTEM PLAN
CH00CM-C-64-BP-AP-230454-4	DETAILS
CH00CM-M-98-BP-AP-230455-1	MECHANICAL LEGEND
CH00CM-M-02-BP-AP-230455-2	P&ID - FAP WELL EW-01
CH00CM-M-02-BP-AP-230455-3	P&ID - FAP WELL EW-02
CH00CM-M-02-BP-AP-230455-4	P&ID - FAP WELL EW-03
CH00CM-M-02-BP-AP-230455-5	P&ID - FAP WELL EW-04
CH00CM-M-02-BP-AP-230455-6	P&ID - FAP WELL GSX-1R
CH00CM-M-02-BP-AP-81706-33	P&ID - FAP SYSTEM
CH00CM-M-65-BP-AP-230455-7	WELL AND PIPING DETAILS - SHT 1
CH00CM-M-65-BP-AP-230455-8	WELL AND PIPING DETAILS - SHT 2
CH00CM-M-65-BP-AP-230455-9	WELL AND PIPING DETAILS - SHT 3
CH00CM-M-65-BP-AP-230455-10	HUNT SYSTEM FLOW METER DETAILS
CH00CM-M-65-BP-AP-230455-11	HUNT/GERONIMO FLOW METER DETAILS
CH00CM-M-65-BP-AP-230455-12	WELL ORIENTATION DETAIL
CH00CM-E-41-BP-AP-230456-1	ELECTRICAL NOTES AND SPECIFICATIONS
CH00CM-E-80-BP-AP-230456-2	GERONIMO ELECTRICAL PLAN
CH00CM-E-01-BP-AP-230456-3	INSTALLATION ONE LINE DIAGRAM
CH00CM-E-01-BP-AP-230456-3D	DEMOLITION ONE LINE DIAGRAM
CH00CM-E-61-BP-AP-230456-4	POWER AND GROUNDING PLAN
CH00CM-E-24-BP-AP-230456-5	PUMP CONTROL PANEL AND B. OF M.
CH00CM-E-14-BP-AP-B44308-240	BA/FA POND SEEP INTERCEPT SYS 120/240V DISTRIBUTION PANEL PDP-24A1 (FEEDS EW-3, EW-4 AND GSX-1R)

SHEET INDEX (CONT'D)	
APS NUMBER	DESCRIPTION
CH00CM-E-14-BP-AP-B44308-241	BA/FA POND SEEP INTERCEPT SYS 120/240V DISTRIBUTION PANEL PDP-24A2 (FEEDS GSX-3, GSX-4 AND EW-2)
CH00CM-E-14-BP-AP-B44308-404	BA/FA POND SEEP INTERCEPT SYS 120/240V DISTRIBUTION PANEL PDP-24A12 (FEEDS EW-1)
CH00CM-E-03-BP-AP-B44450-1901	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP GSX3 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-1905	BA/FA POND SEEP INTERCEPT SYS HUNT'S SEEP SUMP PUMP CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-1906	BA/FA POND SEEP INTERCEPT SYS HUNT'S SEEP WELL PUMP HSX1 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4030	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-01 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4031	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-02 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4032	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-03 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4033	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-04 CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4034	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP GSX1R CONTROL WIRING DIAGRAM
CH00CM-E-03-BP-AP-B44450-4035	BA/FA POND SEEP INTERCEPT SYS SEEP WELL PUMP GSX4 CONTROL WIRING DIAGRAM

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER



THIS SHEET WAS
ORIGINALLY
SEALED BY
ANDREA
KAGIE-HAY ON
05-11-2022

WORK SAFELY TODAY

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NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.o	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
COVER SHEET



SCALE: N.T.S. DATE: 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED	W.A.	
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	X	41	BP	AP	170001	41

**APS CHOLLA GENERATING STATION
FAP SEEPAGE SYSTEM WELLS PUMP INSTALLATION
WA# CHC08903**

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
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TELEPHONE NUMBER

General Notes:

1. Perform all work in accordance with these drawings and other related contract documents.
2. Any work performed without the approval of the Owner and/or the Engineer, and all work and materials not in conformance with the Specifications are subject to removal and replacement at the Contractor's expense.
3. The Contractor is responsible to obtain all necessary permits prior to construction.
4. Contractor agrees that the job site conditions during the course of construction of this project are their sole and complete responsibility, including the safety of all persons and property.
5. It is the Contractor's responsibility to become familiar with the job site and any underground utilities/facilities, whether shown or not on the plans.
6. Existing utilities and/or other facilities have been shown on the plans from data provided from previous field surveys, existing maps, and/or other current plans within the area of this project. The Contractor must determine the exact location and/or elevation of existing utilities that pertain to and affect the construction of this project.
7. The Contractor must call 811 for underground services to locate utility facilities at least one week prior to performing any excavation. Contractor is responsible for locating onsite utilities.
8. All pipelines, wells, substructures, or utilities of any kind, underground or above ground, must be protected in place, unless otherwise directed. Use caution during construction of the project to avoid damaging existing facilities intended to remain.
9. Take necessary and proper precautions to protect adjacent properties from any and all damage that may occur from the Contractor's operations.
10. Take special precautions around power lines in relation to equipment and project work. Power lines may be energized.
11. It is the Contractor's responsibility to protect the Work from damage due to weather events. The contractor shall accept responsibility for Work damage by weather events in any unprotected areas of the Work.
12. It is the Contractor's responsibility to protect all existing road surfaces from equipment or vehicle damage. Any rutting or other damage to roadways must be repaired in a timely manner to the satisfaction of the Owner.
13. Contractor is to maintain a set of redlines on site at all time, available for review when requested. As part of the redlines, the Contractor is to document existing and newly installed conditions, especially of below-ground piping and conduit bury depth when below-ground piping has been exposed and or located. As-builts will provide depths where possible.

General Piping Notes:

1. Field verify all dimensions before fabricating pipe.
2. All piping and mechanical equipment shall be installed in accordance with APS Fossil Generation Standard ME03-004001, the contract documents, or manufacturer's recommendations. If there is a discrepancy between the documents, the most stringent will apply unless otherwise approved by the Engineer.
3. Excavated areas shall be returned to its original condition.
4. Backfill shall be placed and compacted in 8-inch maximum loose lift thicknesses. Material shall be uniformly moisture conditioned and compacted by hand or mechanical methods to provide the required uniform minimum density without damage to the installation of adjacent structures. The compacted backfill shall be compacted to a minimum of 95% of the maximum dry density at a moisture content of minus 3 to plus 2 of optimum (ASTM D698).
5. All structural welding shall conform to AWS D10.12 Structural Welding Code.
6. Welding of all piping shall conform to ASME B31.1 Code.
7. HDPE pipe fusion must conform to ASTM F2620 standards.
8. Below grade piping shall be installed with tracer wire and underground warning tape in accordance with APS standard installation procedures or the contract documents. The tracer wire must be tested for continuity to the satisfaction of the Engineer.
9. Above grade piping shall be insulated with the specified insulation and aluminum covers or jackets, and heat tracing.

General Earthwork Notes:

1. A minimum of one gradation and plasticity index test (ASTM D422 & D4318) is required per 1000 cubic yards, per soil type, of stockpiled or in-place source material.
2. One laboratory compaction curve (ASTM D698) per soil type is required, matched with an associated gradation and plasticity index test.
3. Field in-place density tests shall be taken at a rate of one test for each 100 cubic yards or three tests per shift (whichever is greater) in each type of material used as fill, or at the discretion of the Engineer's representative. Additional tests will be required in critical areas, as deemed by the Engineer.

Technical Specifications:

1. Project Description: This project is located in the Geronimo and Hunt seepage collection areas located south of the Fly Ash Pond (FAP) at the APS Cholla Generating Station. Seepage from the FAP is collected by a system of seepage intercept trenches and extraction wells located throughout the area. The Geronimo extraction system is located north of the highway and comprises two sumps equipped with pumping equipment, two recently abandoned extraction wells, and five recently installed, but not equipped, extraction wells. The Hunt extraction system is located south of the highway and comprises one sump and one extraction well, both equipped with pumping equipment.
The project consists of equipping the five recently installed extraction wells, modifying the three existing sumps and one extraction well with updated controls and instruments, and replacing two mechanical propeller/turbine flow meters with magnetic flow meters.
The five recently installed wells will be equipped with a submersible well pump, level sensor, check valve, magnetic flow meter, 3-way valve to allow sampling and manual flow testing, isolation valve, flow regulator for flow control, air/vacuum release valve and controls. The controls will allow the pump to be turned on/off by a submersible level pressure transmitter, and read-out flows (instantaneous and total), water level, and pump hour run times. A pressure switch located in the discharge piping for each well will act as a permissive for pump operation to avoid issues with too many pumps operating together and creating too high of a pressure for a pump to operate properly. The well piping will be combined with the existing extraction well discharge system. The discharge piping reaches a high point, then flows by gravity to the APS main site location into a pond or other collection structure.
The modifications to the existing sumps and wells will include adding flow meters, level sensor, air/vacuum releases valves, flow regulator for flow control and controls. Piping will be modified as necessary and discharge piping will be reconnected into the existing well discharge system.
The project will include single phase electrical work, powered from the existing source. Power will be delivered to, and pumps to be controlled by a local control panel located near each of the pumps. The work includes all equipment, piping, valves, meters, instruments, and appurtenances required for a complete and operational system.
2. Submersible Well Pumps
 - a. Provide Grundfos Model 5SQ05-90 submersible pump and shroud where indicated on the drawings. Install local control panels with HOA and level pressure transmitter for automatic on/off control.
3. Pressure Transmitter
 - a. Provide a level pressure transmitter with 4-20 mA output, and minimum accuracy of 0.2% of the set span. Cable length shall be 60 feet and with PE insulation. Seals to be EPDM. Measuring range to be 0-15 psi, relative pressure. Provide Endress+Hauser Waterpilot FMX21 for wells (0.87-in diameter) submersible transmitter, or approved equal.
 - b. Provide external display capable of setting display to show feet below ground surface (bgs) directly with a customizable unit (e.g. FTBGS). Provide Endress+Hauser RIA15, or approved equal.
4. General Piping:
 - a. Dielectric Insulation Flange Kits / Unions shall be utilized when connecting pipes, fittings or valves of dissimilar metals.
 - b. Non-detectable Underground Warning Tape shall be provided on all below-grade piping. Material shall be 4 mil thick polyethylene film with permanent 1-inch minimum lettering. Tape shall be 3-inch wide, blue, with "Caution Water Line Below" wording. Provide Christy's TA-ND-3-BW tape, or approved equal.
 - c. Tracer Wire shall be provided for all below-grade piping. Material shall be 12- or 14-gauge copper clad steel wire with high-density polyethylene (HDPE) insulation, minimum 30 mil thickness. Connectors must be moisture-resistant, corrosion-resistant and designed for direct bury applications. Do not wrap wire around piping. All end points must be properly grounded. See electrical specifications and design drawings for details.
 - d. Insulation shall be provided on all above-ground piping.
 - i. Provide pre-formed insulation on above-ground piping, with aluminum jacket and covers on above-ground piping. Insulation thickness shall be minimum 1-1/2 inches, rated for a minimum temperature of 5° F or lower and a maximum temperature of 100° F or higher. Insulation shall be compatible with heat tracing installation.
 - ii. Provide ArmaFlex insulation or approved equal.
 - e. Heat tracing - Provide heat tracing on all above ground piping, per the electrical specifications and design. HDPE pipe to be wrapped with aluminum tape or other compatible insulation layer to protect from excessive heat from heat trace wiring.

6. Piping Materials:

- a. Stainless Steel piping shall be ASTM A312 316 alloy Seamless Schedule 40. All fittings shall be ASTM A351, Class 150, threaded.
- b. Carbon Steel piping shall be ASTM A106 Grade B Seamless Schedule 40. All fittings shall be ASTM A105 Grade II, 2000 lb., threaded.
- c. HDPE piping shall be PE4710 material, IPS pipe size DR 11.

7. General Valves:

- a. Valves in steel piping shall be 316 stainless steel material with Teflon seats.

8. Air/Vacuum Release Valves

- a. Provide 1/2-inch (preferred) or 1-inch air/vacuum release valve with same size isolation ball valve as shown in drawings.
- b. Provide A.R.I. model D-040, DeZurik model 143C, or approved equal. Provide with A.R.I. polyurethane thermal protection jacket accessory or similar jacket for insulation.

9. Ball Valves

- a. Provide stainless steel body in-line ball valve with full port size and quarter-turn open to close, threaded connections, Teflon seat, and designed for minimum 200 psi CWP.

10. Check Valves

- a. Provide soft-seated plunger Y-type check valve with stainless steel body, 316 stainless steel internals and Teflon disc. Valve to have threaded connections. Provide Flomatic model 816 (part no. YV-001-110100), or approved equal.

11. Three-way Valve

- a. Provide stainless steel 3-way ball valve with T-shaped port to allow straight-through flow in one position and 90° flow in the other position from one inlet to one of two outlets. Seats must be designed to ensure full shut-off to discharge not being used. Valve body shall be 316 SS with Teflon seats. Provide Bonomi Model 956N, or approved equal.

12. Flow Regulator Valve

- a. Provide flow regulator valve with stainless steel body, buna-N orifice, and FNPT threaded end connections. Provide regulators with sizes as shown and flow rates as listed on design drawings. Provide Dole Valves Model SSGX, Flomatic Model Flo-Trol CDX, or approved equal.


13. Flow Meters

- a. Provide magnetic flow meters where shown on the drawings with integral field-mounted transmitter of the size shown.
- b. Power required shall be single-phase 120 VAC. Local display shall be digital with totalizer and have 4-20 mA output. Provide two grounding rings with the flow meter.
- c. Electrode shall be lined with PTFE material.
- d. Provide Rosemount Model 8705 magnetic flow meter with Model 8732 transmitter, or approved equal.

14. Pressure Switch/Gauge Assembly

- a. Provide heavy-duty pressure switch and digital or analog gauge installed with isolation ball valves. Each component is to be suitable for installation on pipeline with an operating range of 0-150 psi.
- b. Provide pressure switch with form c contacts, with field-settable cut-in and cut-out pressures.
- c. Pressure switch and pressure gauge to be rated for outdoor installation at temperatures from 0 to 175 deg F and a minimum rating of IP65.
- d. Provide Mercoid, or approved equal.


1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	CHC08903	
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	CHC08903	
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.



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KAGIE-HAY ON
05-11-2022

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
GENERAL NOTES AND SPECIFICATIONS



SCALE: NTS DATE: 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED	W A
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER
CH00CM	X	41	BP	AP	230453
					SHEET
					1

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STANDARD ABBREVIATIONS

<p>@ AT ABC AGGREGATE BASE COURSE ACP ASBESTOS CEMENT PIPE ALT ALTERNATE ALUM ALUMINUM AM AIR METER APPROX APPROXIMATELY AR AIR RELEASE VALVE ARVR AIR AND VACUUM RELEASE VALVE AVG AVERAGE AV AIR VACUUM RELEASE</p> <p>BA BALL VALVE BC BALL CHECK VALVE BEFP BELT FILTER PRESS BF BLIND FLANGE or BACKFLUSH or BUTTERFLY VALVE BFP BACKFLOW PREVENTER BLDG BUILDING BOT BOTTOM BP BACK PRESSURE REGULATING VALVE BPS BYPASS</p> <p>CC CENTER-TO-CENTER CEN CENTRATE CFM CUBIC FEET (OF STANDARD AIR) PER MINUTE CIP CLEAN IN PLACE CIT CITRIC ACID SOLUTION CK CHECK VALVE CL CENTERLINE CL2 CHLORINE CLDI CEMENT LINED DUCTILE IRON CMU CEMENT MASONRY UNIT CO CLEAN OUT CONC CONCRETE CONN CONNECTION CONV CONVEYOR CPLG COUPLING CPVC CHLORINATED POLYVINYL CHLORIDE CS CARBON STEEL CSP CORRUGATED STEEL PIPE CW CHAIN WHEEL CWSD CHEMICAL WET SCRUBBER DRAIN CWS CHEMICAL WET SCRUBBER</p> <p>D DRAIN or DEEP or DEPTH DC DOUBLE CONTAINED DE DISINFECTED EFFLUENT DI DUCTILE IRON DIA DIAMETER DIP DUCTILE IRON PIPE DP DAMPER DTL DETAIL DWG DRAWING DWS DEWATERED SLUDGE</p> <p>E EAST or ELECTRIC EA EACH OR ELECTRIC ACTUATOR ECC ECCENTRIC EDB ELECTRICAL DUCT BANK EFF EFFLUENT EL ELEVATION ELEC ELECTRIC EMH ELECTRICAL MANHOLE EPA ENVIRONMENTAL PROTECTION AGENCY EPDM ETHYLENE PROPYLENE DIENE MONOMER EQUIP EQUIPMENT EXIST EXISTING</p> <p>FA FOUL AIR FBW FILTER BACKWASH WASTE FC FLEXIBLE CONNECTOR FCA FLANGED COUPLING ADAPTER FD FLOOR DRAIN FE FILTER EFFLUENT</p>	<p>FH FIRE HYDRANT FI FILTER INFLUENT FLG FLANGE FLGD FLANGED FPM FEET PER MINUTE FR FILTRATE REJECT FRP FIBERGLASS REINFORCED PLASTIC FT FOOT or FEET</p> <p>G GRIT GA GAUGE GAL GALLON GALV GALVANIZED GE GRIT EFFLUENT GLDI GLASS LINED DUCTILE IRON GV GLOBE VALVE GPM GALLONS PER MINUTE GRV GROOVED GV GATE VALVE GW GROUNDWATER</p> <p>H HIGH or HEIGHT HDPE HIGH DENSITY POLYETHYLENE HDWKS HEADWORKS HORIZ HORIZONTAL HP HORSEPOWER HO HAND OPERATED</p> <p>INF INFLUENT INV INVERT IWBW INJECTION WELL BACKWASH IWI INJECTION WELL INFLUENT</p> <p>KG KNIFE GATE VALVE</p> <p>L LONG or LENGTH LF LINEAR FEET LT LEFT</p> <p>M METER MAG MAGNETIC MAX MAXIMUM MECH MECHANICAL MGD MILLION GALLONS PER DAY MH MANHOLE MIN MINIMUM MJ MECHANICAL JOINT ML MIXED LIQUOR MLR MIXED LIQUOR RETURN</p> <p>N NORTH NA NOT APPLICABLE NaHSO3 SODIUM BISULFITE NaOCl SODIUM HYPOCHLORITE NaOH SODIUM HYDROXIDE NC NORMALLY CLOSED NO NORMALLY OPEN or NUMBER NOM NOMINAL NPT NATIONAL PIPE THREAD NPW NON-POTABLE WATER</p> <p>OA OUTSIDE AIR OCD ODOR CONTROL DUCT OF OVERFLOW OHE OVERHEAD ELECTRIC POWER LINES OPP OPPOSITE</p> <p>PA PROCESS AIR PD PLAIN DRAIN PE PLAIN END PFE PRIMARY FILTER EFFLUENT PFI PRIMARY FILTER INFLUENT PI PLANT INFLUENT PL PROPERTY LINE</p>	<p>PG PLUG VALVE PM PERMEATE PR PRESSURE RELIEF VALVE PRV PRESSURE REDUCING VALVE PVC POLYVINYL CHLORIDE PW POTABLE WATER PN PNEUMATIC</p> <p>R RADIUS RCP REINFORCED CONCRETE PIPE RED REDUCER or REDUCING REQ'D REQUIRED RH RELATIVE HUMIDITY RI RAW INFLUENT ROW RIGHT-OF-WAY RPM REVOLUTIONS PER MINUTE RS RAW SEWAGE RT RIGHT</p> <p>S SOUTH or SLUDGE SB SCREEN BYPASS SBR SEQUENCING BATCH REACTOR SBRE SBR EFFLUENT SBRI SBR INFLUENT SBS SODIUM BISULFITE SBW SCREEN BACKWASH SCR SCREEN SE SCREEN EFFLUENT SEC SECTION SER SECONDARY EFFLUENT RECYCLE SG SLUICE GATE SI SCREEN INFLUENT SIM SIMILAR SLG SLIDE GATE SMP SAMPLE SN SUPERNATANT SP IN WG STATIC PRESSURE INCHES OF WATER GAUGE SPECS SPECIFICATIONS SQ SQUARE SS STAINLESS STEEL or SANITARY SEWER SST STAINLESS STEEL STA STATION STD STANDARD STL STEEL SV SOLENOID VALVE</p> <p>T TELEPHONE TEMP TEMPERATURE or TEMPORARY TMH TELEPHONE MANHOLE TS&V TAPPING SLEEVE AND VALVE TYP TYPICAL</p> <p>UV ULTRA-VIOLET</p> <p>V VOLTS VAC VOLTS ALTERNATING CURRENT VB VALVE BOX VCP VITRIFIED CLAY PIPE VEL VELOCITY VERT VERTICAL</p> <p>W WEST or WIDE or WIDTH W/ WITH WAS WASTE ACTIVATED SLUDGE WD WIDE WS WATER SURFACE</p>
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AS-BUILT CERTIFICATION

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CHOLLA GENERATING STATION
 FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
 STANDARD ABBREVIATIONS

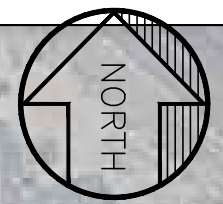
SCALE: NTS DATE: 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED		W A
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY		CHC08903
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	X	41	BP	AP	230453	2

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DRAWING REFERENCES

1. SEE THE FOLLOWING SHEETS FOR DESIGN INFORMATION FOR WELLS, SUMPS, AND TRENCHES RELATED TO THIS AREA.
 - A. D-114479-1
 - B. G-114437-1
 - C. G-114438-1
 - D. G-114438-3
 - E. G-114438-4
 - F. G-143718-1
 - G. G-143718-2

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR TO LOCATE AND VERIFY EXISTING UTILITIES AND UNDERGROUND PIPE. TRENCH LOCATION IS BASED ON BEST AVAILABLE INFORMATION, BUT MAY BE INACCURATE.
2. CONTRACTOR TO PROTECT IN PLACE ALL EXISTING UTILITIES AND UNDERGROUND PIPE.
3. ALL PROPOSED DEWATERING PIPE SHALL BE HDPE PER SPECIFICATIONS.
4. CONTRACTOR TO MAINTAIN A MINIMUM COVER OF 3'.

LEGEND:

- POWERPOLE
- INSTALLED EXTRACTION WELL - TO BE EQUIPPED
- EXISTING ONLINE EXTRACTION WELL - UPGRADES PROPOSED
- EXISTING EXTRACTION WELL - ABANDONED
- EXISTING MONITORING WELL
- MONITORING WELL - ABANDONED
- EXISTING PIEZOMETER
- PIEZOMETER - ABANDONED
- VWP PIEZOMETER
- EXISTING SUMP LOCATION - UPGRADES PROPOSED
- ABOVE-GROUND EXISTING DEWATERING LINE
- UNDER-GROUND EXISTING DEWATERING LINE
- ABOVE-GROUND PROPOSED DEWATERING LINE
- UNDER-GROUND PROPOSED DEWATERING LINE
- EXISTING SEEPAGE COLLECTION TRENCH
- OVERHEAD ELECTRIC LINE
- EXISTING FENCE
- PROPOSED FENCE
- LEASE BOUNDARY

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.g	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWD	APVD	W.A.

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
OVERVIEW



SCALE 1"=60' DATE 05/11/2022

DWN	CRJ	EXD	TSL	APPROVED	W A
CHD	ALK	RWD	RAW	MAREN HENLEY	CHC08903
				DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	C	06	BP	AP	230454	1

2-INCH WELL SYSTEM DISCHARGE PIPELINE CONNECTS TO EXISTING 6-INCH PIPELINE FOR ACTUAL DISCHARGE CROSSING HIGHWAY TO MAIN APS PLANT. 2-INCH ISOLATION BALL VALVE NOT SHOWN

6-INCH PIPELINE RUNS PARALLEL TO OTHER 6-INCH PIPES BACK TO THE MAIN APS FACILITY. CONTINUATION OF PIPING NOT SHOWN FOR CLARITY

2-INCH WELL SYSTEM DISCHARGE PIPELINE RUNS PARALLEL TO 6-INCH PIPES UP THE HILL TO ORIGINAL DISCHARGE LOCATION INTO FAP CONTINUATION OF PIPING NOT SHOWN FOR CLARITY

HUNT SYSTEM FLOW METER SEE DTL ON 230455-10

COMBINED GERONIMO / HUNT SYSTEM FLOW METER SEE DTL ON 230455-11

6-INCH PIPELINE RUNS PARALLEL TO OTHER 6-INCH PIPES BACK TO THE MAIN APS FACILITY. CONTINUATION OF PIPING NOT SHOWN FOR CLARITY

SEE SHEET 230454-2

SEE SHEET 230454-3

PLAN VIEW
SCALE: 1"=60' (FULL SIZE)

Call at least two full working days before you begin excavation.

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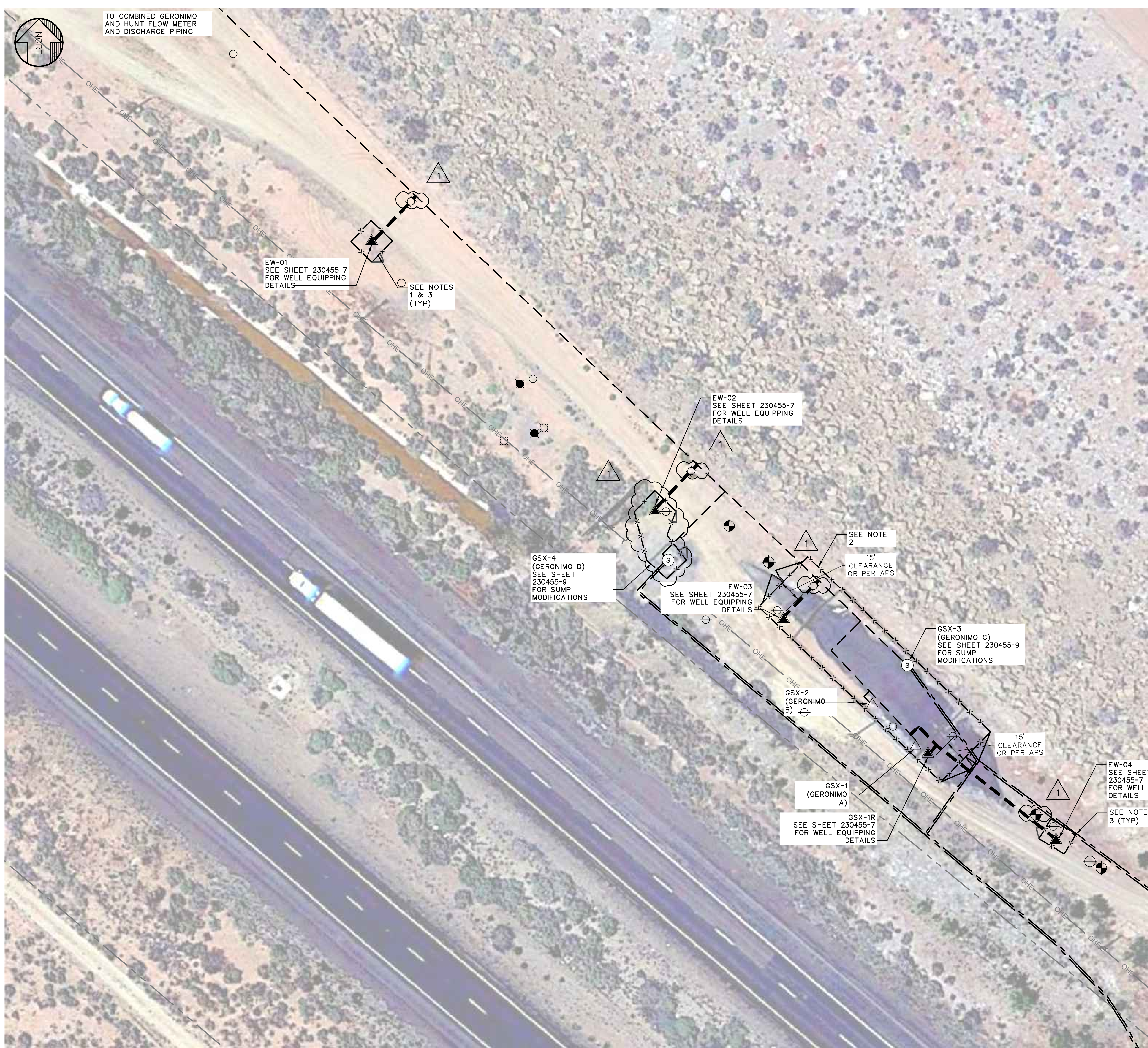
wsp

4600 E WASHINGTON ST. SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS ORIGINALLY SEALED BY ANDREA KAGIE-HAY ON 05-11-2022

WORK SAFELY TODAY

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORPORATION.



AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510 ARIZONA REGISTRATION NUMBER

602-733-6100 TELEPHONE NUMBER

DRAWING REFERENCES

1. SEE THE FOLLOWING SHEETS FOR DESIGN INFORMATION FOR WELLS, SUMPS, AND TRENCHES RELATED TO THIS AREA.
 - A. D-114479-1
 - B. G-114437-1
 - C. G-114438-1
 - D. G-114438-3
 - E. G-114438-4

NOTES:

1. INSTALL CHAIN LINK FENCE WITH ACCESS GATE AROUND NEW WELLS WHERE SHOWN. MATCH EXISTING FENCING FOR GENERAL DESIGN, SIZING, GATE SIZE AND LOCATION AROUND INDIVIDUAL WELLS. SEE ELECTRICAL DRAWINGS FOR FENCE GROUNDING/CATHODIC PROTECTION REQUIREMENTS.
2. REINSTALL AND EXTEND EXISTING LARGE ENCLOSURE BY DEMOLISHING AND SALVAGING EXISTING FENCING, IF IN GOOD CONDITION, AND INSTALL NEW AS NEEDED TO ENCLOSE EW-03 AND GSX-1R WITHIN EXISTING. PROVIDE TWO DOUBLE-SWING VEHICLE GATES ON EITHER END FOR TRUCK ACCESS. SEE ELECTRICAL DRAWINGS FOR FENCE GROUNDING/CATHODIC PROTECTION REQUIREMENTS.
3. INSTALL FENCE OUTSIDE OF ROADWAY.

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR TO LOCATE AND VERIFY EXISTING UTILITIES AND UNDERGROUND PIPE. TRENCH LOCATION IS BASED ON BEST AVAILABLE INFORMATION, BUT MAY BE INACCURATE.
2. CONTRACTOR TO PROTECT IN PLACE ALL EXISTING UTILITIES AND UNDERGROUND PIPE.
3. ALL PROPOSED BELOW-GRADE DEWATERING PIPE SHALL BE HDPE PER SPECIFICATIONS.
4. CONTRACTOR TO MAINTAIN A MINIMUM COVER OF 3'.

LEGEND:

	POWERPOLE
	INSTALLED EXTRACTION WELL - TO BE EQUIPPED
	EXISTING ONLINE EXTRACTION WELL - UPGRADES PROPOSED
	EXISTING EXTRACTION WELL - ABANDONED
	EXISTING MONITORING WELL
	MONITORING WELL - ABANDONED
	EXISTING PIEZOMETER
	PIEZOMETER - ABANDONED
	VWP PIEZOMETER
	EXISTING SUMP LOCATION - UPGRADES PROPOSED
	NEW CORP STOP VALVE WITH COVER
	ABOVE-GROUND EXISTING DEWATERING LINE
	UNDER-GROUND EXISTING DEWATERING LINE
	ABOVE-GROUND PROPOSED DEWATERING LINE
	UNDER-GROUND PROPOSED DEWATERING LINE
	EXISTING SEEPAGE COLLECTION TRENCH
	OVERHEAD ELECTRIC LINE
	EXISTING FENCE
	PROPOSED FENCE
	LEASE BOUNDARY

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
CHOLLA GENERATING STATION FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION GERONIMO SYSTEM PLAN								



SCALE: 1"=25' DATE: 05/11/2022

DWN	CRJ	EXD	TSL	APPROVED	W.A.
CHD	ALK	RWVD	RAW	MAREN HENLEY	CHC08903
DRAWING APPROVED BY					

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	C	47	BP	AP	230454	2



THIS SHEET WAS ORIGINALLY SEALED BY ANDREA KAGIE-HAY ON 05-11-2022

4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

WORK SAFELY TODAY

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PLAN VIEW
SCALE: 1"=25' (FULL SIZE)



AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
 ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
 61510
 ARIZONA REGISTRATION NUMBER
 602-733-6100
 TELEPHONE NUMBER

DRAWING REFERENCES

- SEE THE FOLLOWING SHEETS FOR DESIGN INFORMATION FOR WELLS, SUMPS, AND TRENCHES RELATED TO THIS AREA.
 - A. D-114438-1
 - B. G-114438-3
 - C. G-114438-4
 - D. G-143718-1
 - E. G-143718-2

GENERAL CONSTRUCTION NOTES:


- CONTRACTOR TO LOCATE AND VERIFY EXISTING UTILITIES AND UNDERGROUND PIPE. TRENCH LOCATION IS BASED ON BEST AVAILABLE INFORMATION, BUT MAY BE INACCURATE.
- CONTRACTOR TO PROTECT IN PLACE ALL EXISTING UTILITIES AND UNDERGROUND PIPE.
- ALL PROPOSED BELOW-GRADE DEWATERING PIPE SHALL BE HDPE PER SPECIFICATIONS.
- CONTRACTOR TO MAINTAIN A MINIMUM COVER OF 3'.

LEGEND:

- ◇ POWERPOLE
- ▲ INSTALLED EXTRACTION WELL - TO BE EQUIPPED
- ▲ EXISTING ONLINE EXTRACTION WELL - UPGRADES PROPOSED
- △ EXISTING EXTRACTION WELL - ABANDONED
- ⊕ EXISTING MONITORING WELL
- ⊕ MONITORING WELL - ABANDONED
- EXISTING PIEZOMETER
- PIEZOMETER - ABANDONED
- ⊕ VWP PIEZOMETER
- ⊙ EXISTING SUMP LOCATION - UPGRADES PROPOSED
- ABOVE-GROUND EXISTING DEWATERING LINE
- - - UNDER-GROUND EXISTING DEWATERING LINE
- ABOVE-GROUND PROPOSED DEWATERING LINE
- - - UNDER-GROUND PROPOSED DEWATERING LINE
- == EXISTING SEEPAGE COLLECTION TRENCH
- OHE— OVERHEAD ELECTRIC LINE
- x - x - x - EXISTING FENCE
- x - x - x - PROPOSED FENCE
- - - LEASE BOUNDARY


1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.

PLAN VIEW
 SCALE: 1"=20' (FULL SIZE)



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 PHONE: 602-733-6000

THIS SHEET WAS
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 ANDREA
 KAGIE-HAY ON
 05-11-2022



SCALE 1"=20' DATE 05/11/2022

DWN	CRJ	EXD	TSL	APPROVED	W A	
CHD	ALK	RWVD	RAW	MAREN HENLEY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	C	47	BP	AP	230454	3

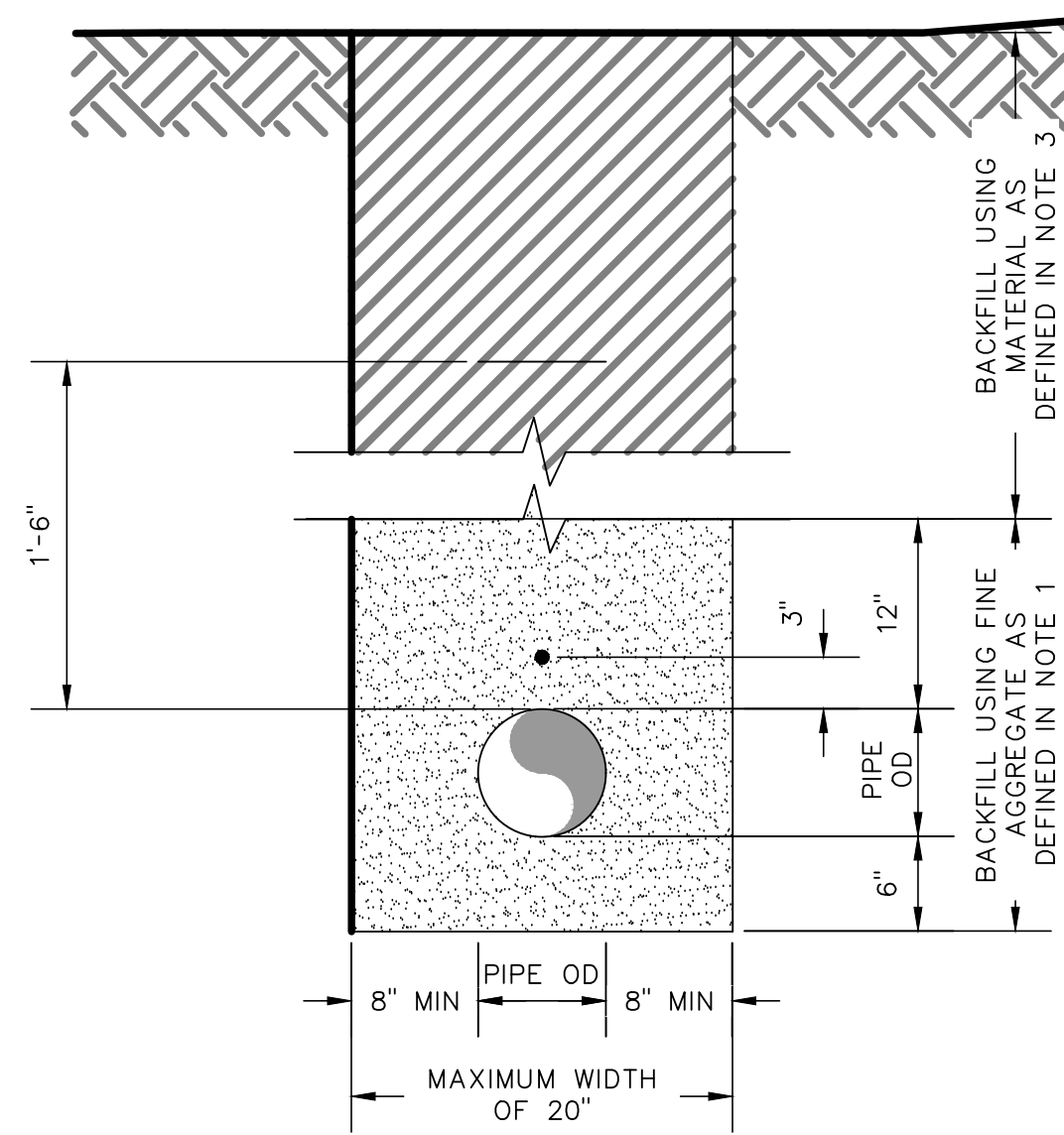
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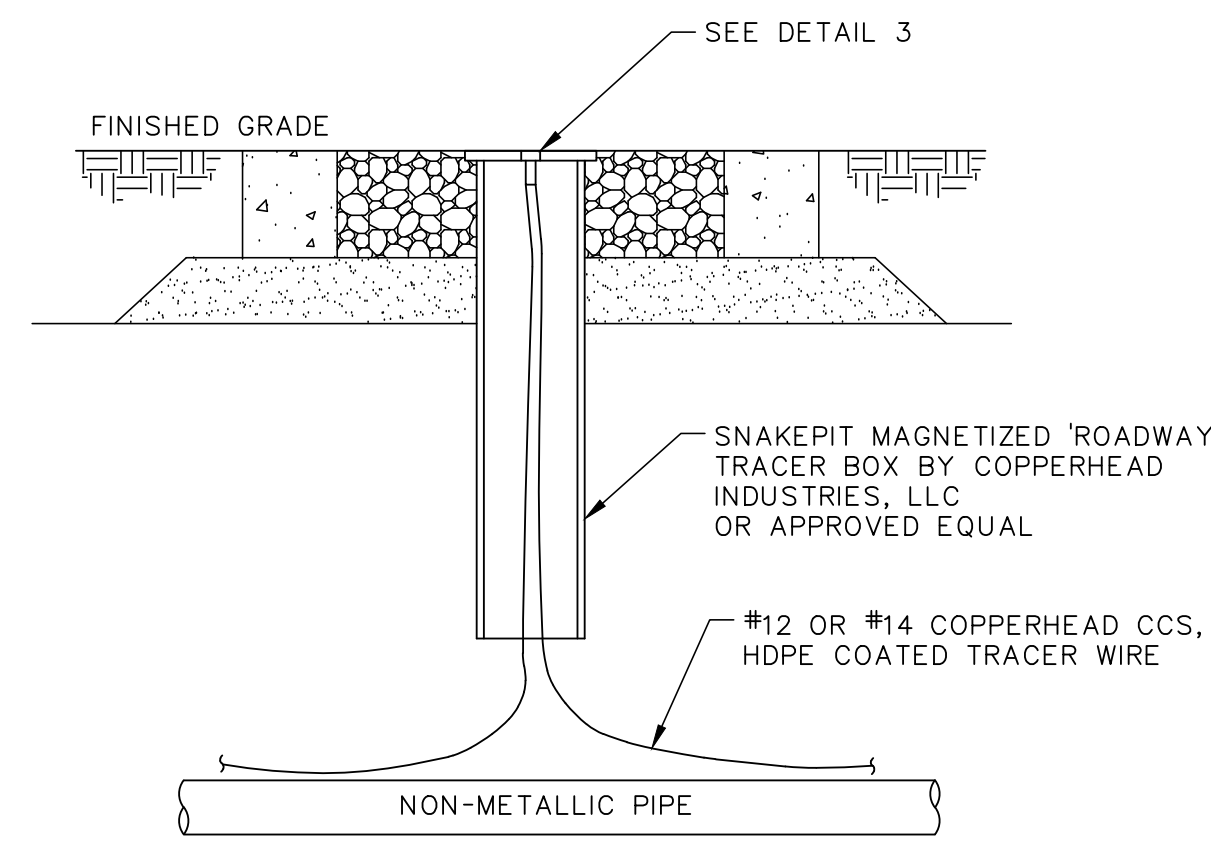
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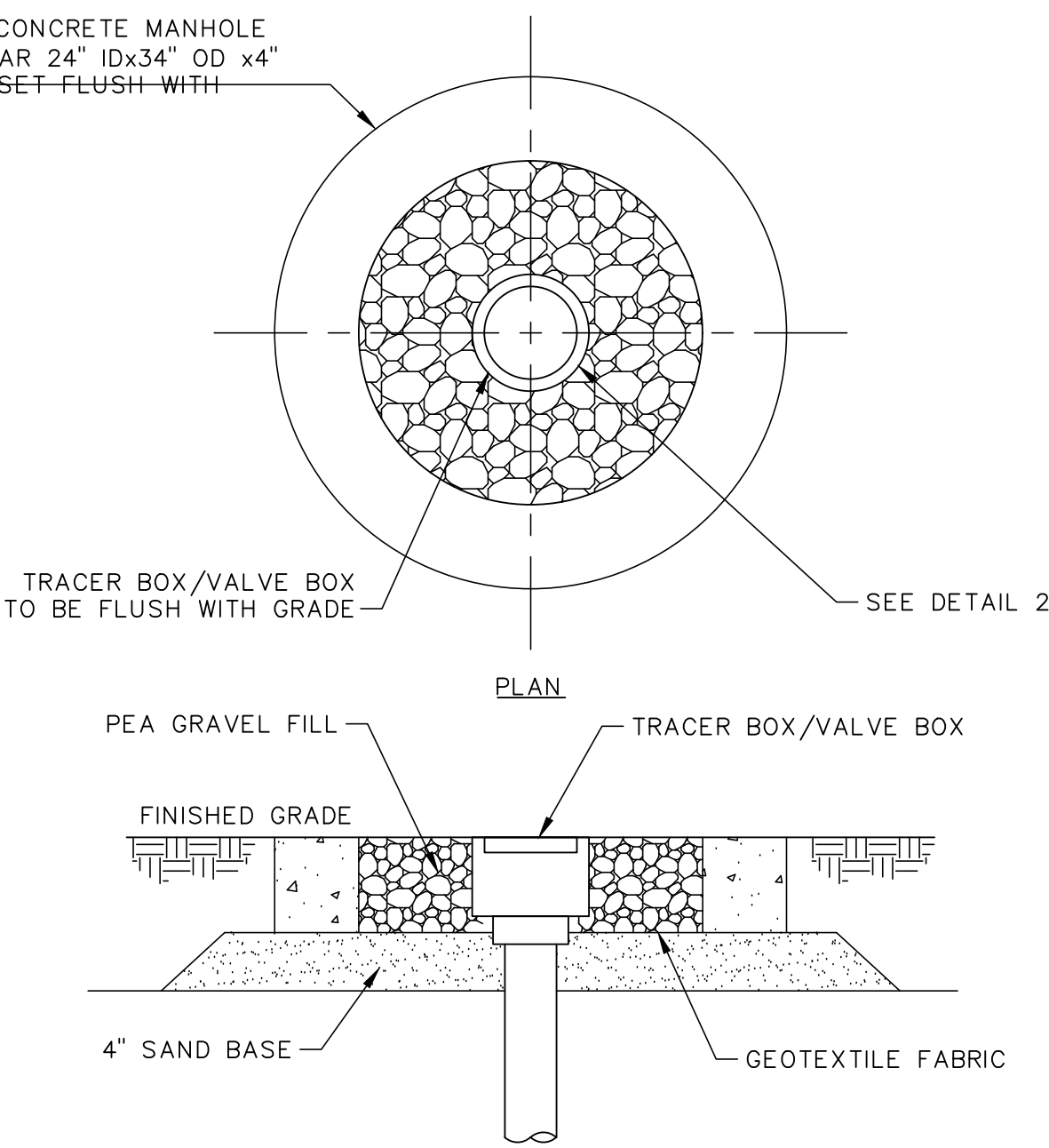
DETAIL 1 TRENCH DETAIL
NTS

- NOTES:
1. CONTRACTOR TO USE FINE AGGREGATE AS INITIAL BACKFILL AS DEFINED AS BEING ABLE TO PASS A NO. 4 US STANDARD SIEVE BUT NOT A NO. 200 US STANDARD SIEVE AND MUST NOT CONTAIN ANY DELETERIOUS MATERIALS.
 2. CONTRACTOR TO BACKFILL AND COMPACT TO 95% IN 8 INCH LIFTS. SEE TECHNICAL NOTES.
 3. CONTRACTOR TO USE CLSM, ABC, AND/OR GRANULAR OR SCREENED NATIVE BACKFILL.
 4. INSTALL WARNING TAPE ENTIRE LENGTH OF BURIED PIPING. SEE TECHNICAL SPECIFICATIONS.

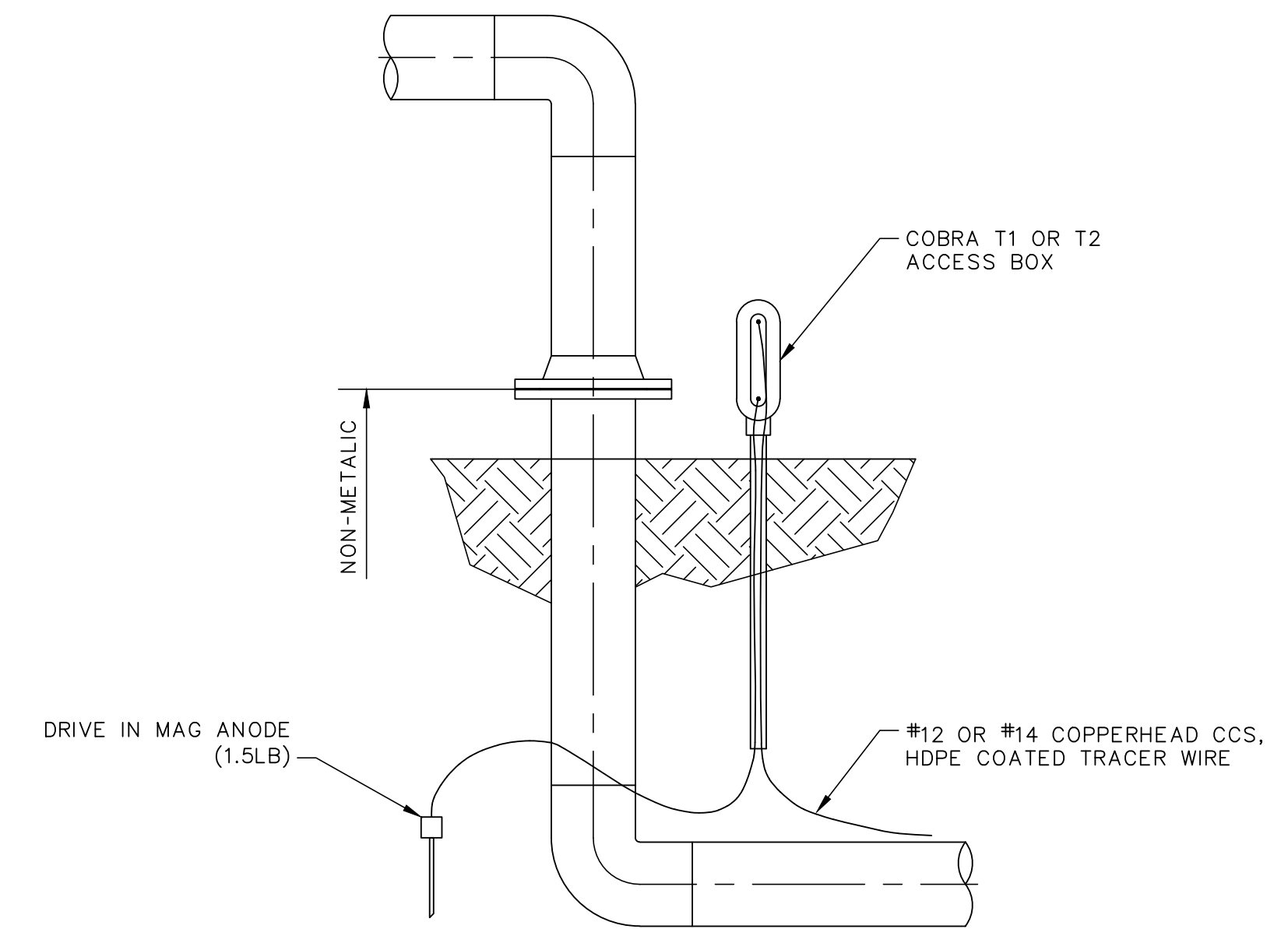


- NOTES:
1. TRACER BOXES SHALL BE LOCATED AT EACH ELBOW.
 2. MAXIMUM SPACING OF TRACER BOXES SHALL BE 1000'.

DETAIL 2 TYPICAL TRACER BOX
NTS PIPES THAT ARE BELOW GROUND

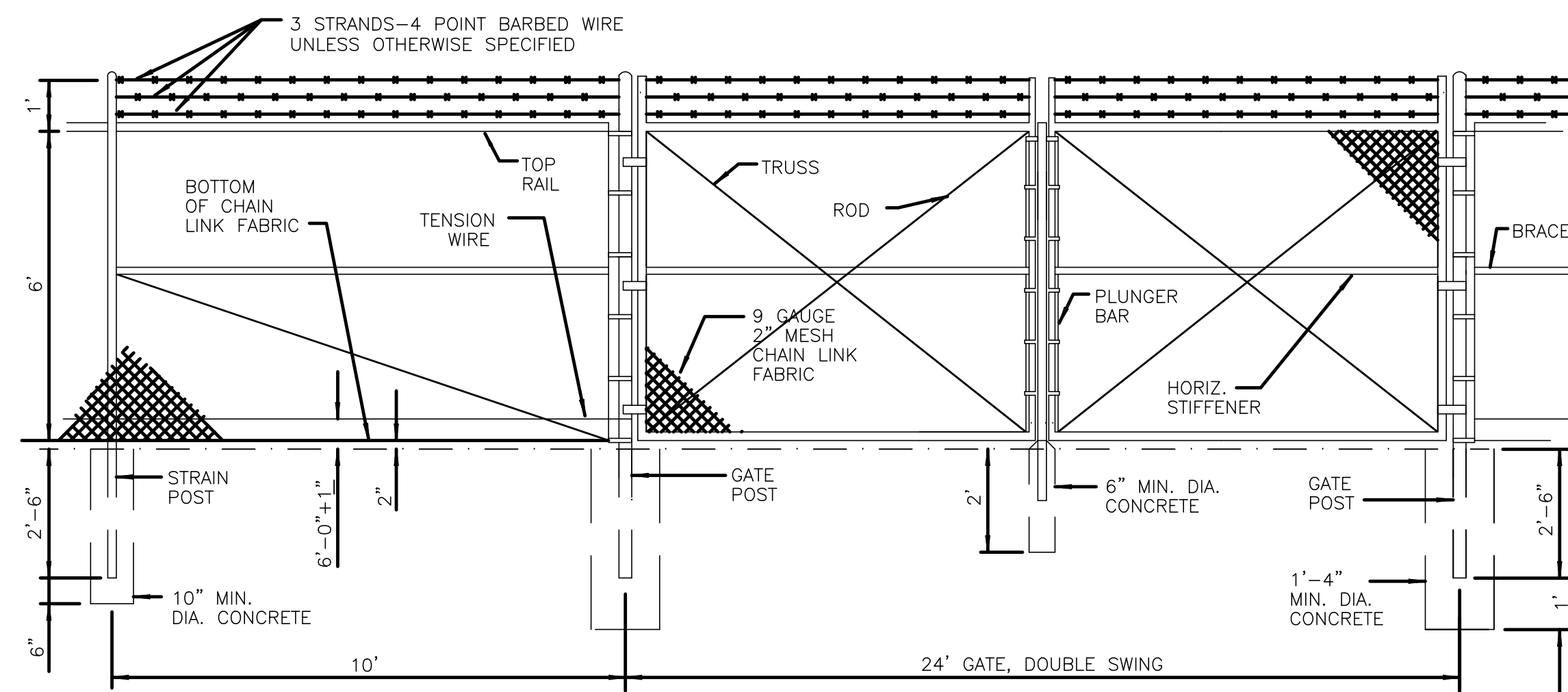


DETAIL 3 TYPICAL TRACER BOX
NTS PROTECTION COLLAR



- NOTES:
1. TRACER BOXES SHALL BE LOCATED AT EACH ELBOW.
 2. MAXIMUM SPACING OF TRACER BOXES SHALL BE 1000'.
 3. COBRA T1 USED WITH NO GROUNDING ANODE.
 4. COBRA T2 USED WITH GROUNDING ANODE.

DETAIL 4 TYPICAL TRACER BOX
NTS PIPES THAT COME ABOVE GROUND



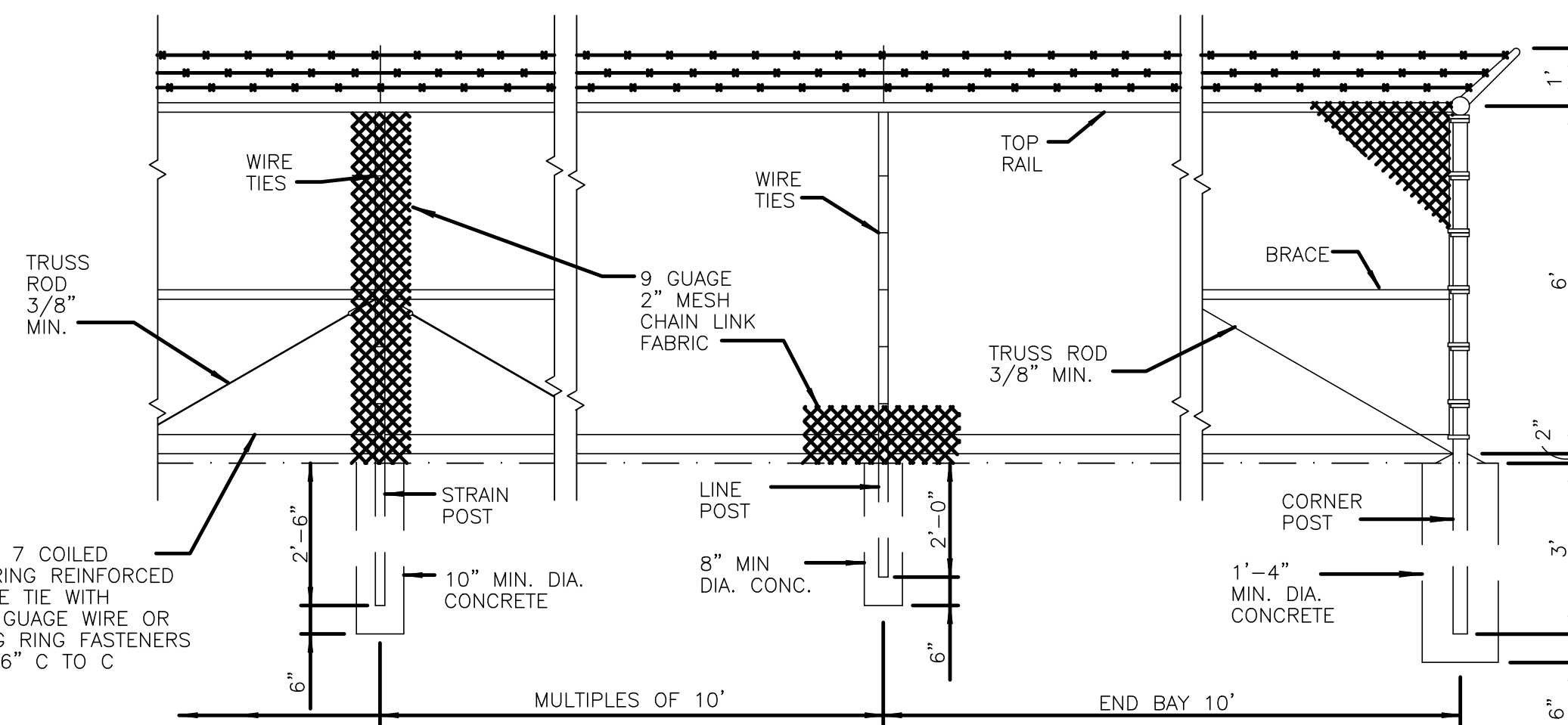
NOTES

1. ALL CONCRETE SHALL BE CLASS 'C' PER SECT. MAG 725.
2. FITTINGS NOT SPECIFICALLY DETAILED SHALL BE HEAVY DUTY DESIGN.
3. STRAIN POSTS SHALL BE SPACED AT 500' MAXIMUM SPACING.
4. BOTH CORNER AND STRAIN POSTS SHALL HAVE STRAIN PANELS.
5. ALL POSTS SHALL BE CAPPED.
6. MEMBER SIZES SHALL BE THE FOLLOWING:

MEMBER	AISC SIZE	OUTSIDE DIA.
CORNER POST	2-1/2"	2.875"
LINE POST	1-1/2"	1.900"
STRAIN POST	1-1/2"	1.900"
BRACE	1-1/4"	1.666"
STRETCH BAR	3/16"x3/4" FLAT	3/16"x3/4" FLAT
GATE POST	3-1/2"	4.000"
TOP RAIL	1-1/4"	1.666"

7. CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG SECT. 420 AND 772, RESPECTIVELY. SEE TABLE 772-1 FOR WEIGHTS OF MEMBERS.

DETAIL 160 FROM MARICOPA ASSOCIATION OF GOVERNMENTS (MAG).



DETAIL 5 6' CHAIN LINK FENCE AND GATE
NTS

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	TSL	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
FLOW METER DETAILS



SCALE: NTS DATE: 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED	W.A.
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903

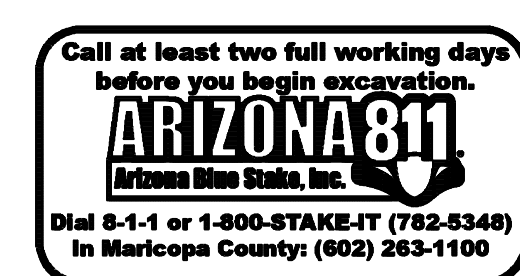
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	C	64	BP	AP	230454	4



THIS SHEET WAS
ORIGINALLY
SEALED BY
ANDREA
KAGIE-HAY ON
05-11-2022

WORK SAFELY TODAY

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In Maricopa County: (602) 263-1100

MECHANICAL LEGEND

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
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61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

VALVE SYMBOLS				VALVE SYMBOLS				PIPE FITTINGS				PIPE FITTINGS			
DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION	DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION	DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION	DESCRIPTION	SYMBOL	MECHANICAL PLAN	MECHANICAL SECTION
GATE				PRESSURE REDUCING				BASE ELBOW				PRESSURE GAUGE			
KNIFE GATE				BACK PRESSURE REGULATOR				REDUCER				FLANGE COUPLING ADAPTER			
BUTTERFLY				HOSE BIBB				BLIND FLANGE				PIPE JOINTS			
PLUG				PIPE FITTINGS				SLEEVE TYPE COUPLING							
CHECK (SWING)				CROSS				SLEEVE TYPE COUPLING				MECHANICAL JOINT			
CHECK (TILTED DISC)				TEE				GROOVED TYPE COUPLING				WELDED			
CHECK (BALL VALVE)				LATERAL				EXPANSION JOINT RUBBER BELLOWS TYPE				SCREWED			
BALL				90° ELBOW				EXPANSION JOINT METAL BELLOWS TYPE				GROOVED			
DIAPHRAGM				45° ELBOW				VENTURI METER				TAPPING SLEEVE			
GLOBE				SIDE OUTLET ELBOW				MAGNETIC METER				PIPE JOINTS			
PRESSURE RELIEF				PIPE FITTINGS				WYE STRAINER							
AIR AND VACUUM RELEASE				90° ELBOW				THERMOMETER				MECHANICAL JOINT			
AIR RELEASE				45° ELBOW				UNION (SCREWED)				WELDED			
				SIDE OUTLET ELBOW				VENT				GROOVED			

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.

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PHOENIX, ARIZONA 85034
PHONE: 602-733-0000

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ANDREA
KAGIE-HAY ON
05-11-2022

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
MECHANICAL LEGEND

SCALE: NTS DATE: 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED	W A
CHD	ALK	RWVD	RAW	MAREN HENLEY	CHC08903
DRAWING APPROVED BY					

UNIT: CH00CM DISC: M TYPE: 98 SYS: BP SUBSYS: AP NUMBER: 230455 SHEET: 1

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ARIZONA 811
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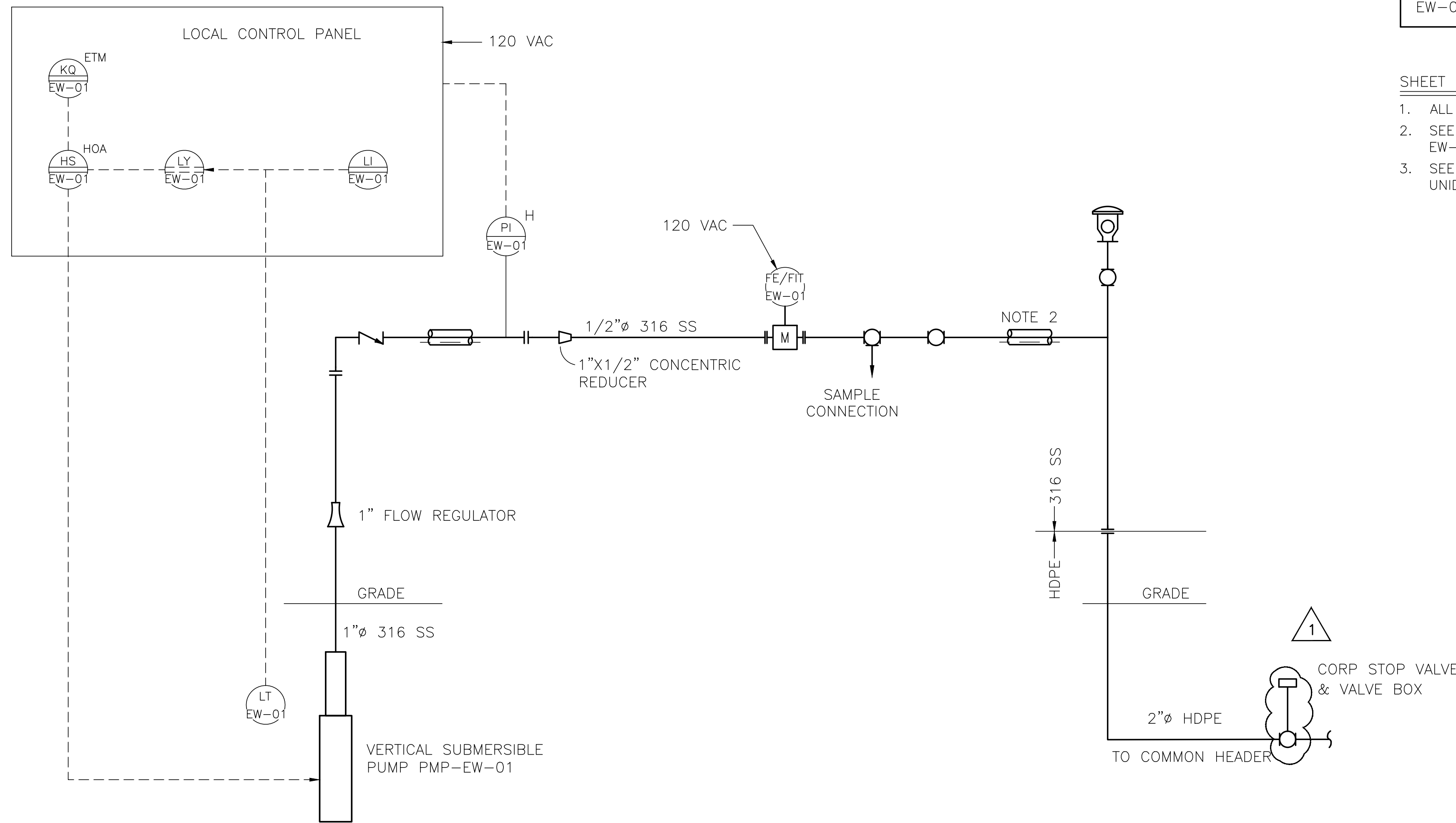
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TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL TRANSMITTER NO.
EW-01	MTR-EW-01	CP-EW-01	FE-EW-01	LT-EW-01

SHEET NOTES:

- ALL ABOVE-GRADE PIPING SHALL BE INSULATED AND HEAT TRACED.
- SEE SHEETS 230455-2 THROUGH 230455-6 FOR P&IDS FOR WELLS EW-01 THROUGH EW-04 AND GSX-1R.
- SEE SHEET G-81706-33 FOR THE FAP SYSTEM P&ID AND RELATED UNID NUMBERS FOR EXISTING WELLS AND SUMPS



P&ID - WELL EW-01

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER
HOA	HAND-OFF-AUTO
ETM	ELAPSED TIME METER
K	TIME
HS	HAND SWITCH
Q	TOTAL
L	LEVEL
Y	ACTUATOR
LI	LEVEL INDICATOR
PI	PRESSURE INDICATOR/SWITCH

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

 4600 E WASHINGTON ST, SUITE 600 PHOENIX, ARIZONA 85034 PHONE: 602-733-6000	THIS SHEET WAS ORIGINALLY SEALED BY ANDREA KAGIE-HAY ON 05-11-2022	CHOLLA GENERATING STATION FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION PIPING & INSTRUMENTATION SCHEMATIC FAP WELL EW-01	
		 SCALE: NTS DATE: 03/18/2022	
WORK SAFELY TODAY		APPROVED MAREN HENLEY DRAWING APPROVED BY	W A CHC08903
THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORPORATION.	UNIT: CH00CM DISC: M TYPE: 02 SYS: BP SUBSYS: AP NUMBER: 230455 SHEET: 2		

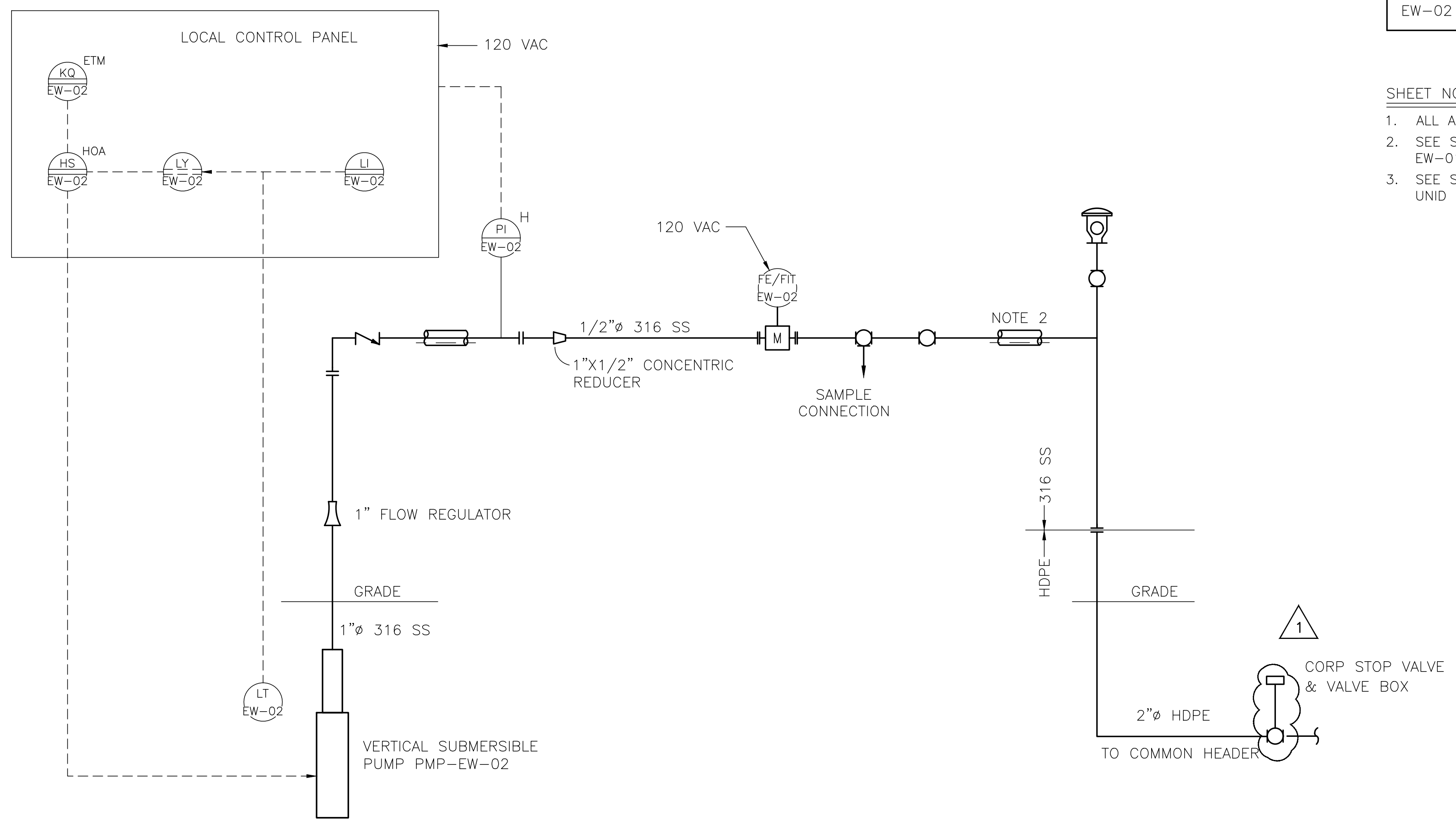


TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL TRANSMITTER NO.
EW-02	MTR-EW-02	CP-EW-02	FE-EW-02	LT-EW-02

SHEET NOTES:

1. ALL ABOVE-GRADE PIPING SHALL BE INSULATED AND HEAT TRACED.
2. SEE SHEETS 230455-2 THROUGH 230455-6 FOR P&IDS FOR WELLS EW-01 THROUGH EW-04 AND GSX-1R.
3. SEE SHEET G-81706-33 FOR THE FAP SYSTEM P&ID AND RELATED UNID NUMBERS FOR EXISTING WELLS AND SUMPS



PI&D - WELL EW-02

AS-BUILT CERTIFICATION

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P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER
HOA	HAND-OFF-AUTO
ETM	ELAPSED TIME METER
K	TIME
HS	HAND SWITCH
Q	TOTAL
L	LEVEL
Y	ACTUATOR
LI	LEVEL INDICATOR
PI	PRESSURE INDICATOR/SWITCH

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
CHOLLA GENERATING STATION FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION PIPING & INSTRUMENTATION SCHEMATIC FAP WELL EW-02								
SCALE: NTS DATE: 03/18/2022								
DWN	CRJ	EXD	TSL	APPROVED		W A		
CHD	ALK	RWVD	RAW	MAREN HENLEY		CHC08903		
DRAWING APPROVED BY								
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET		
CH00CM	M	02	BP	AP	230455	3		

4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS
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KAGIE-HAY ON
05-11-2022

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In Maricopa County: (602) 263-1100

WORK SAFELY TODAY

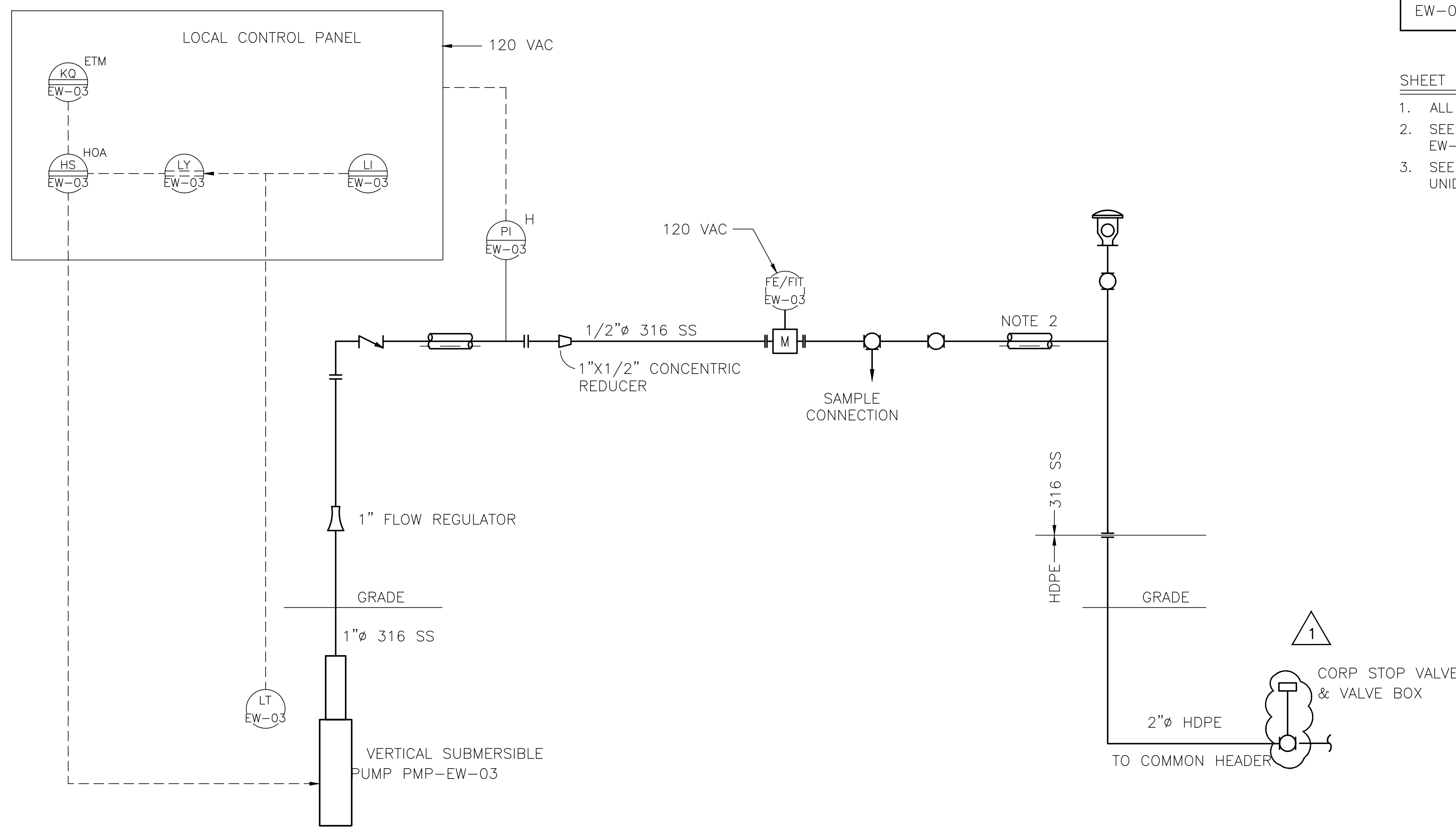
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TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL TRANSMITTER NO.
EW-03	MTR-EW-03	CP-EW-03	FE-EW-03	LT-EW-03

SHEET NOTES:

1. ALL ABOVE-GRADE PIPING SHALL BE INSULATED AND HEAT TRACED.
2. SEE SHEETS 230455-2 THROUGH 230455-6 FOR P&IDS FOR WELLS EW-01 THROUGH EW-04 AND GSX-1R.
3. SEE SHEET G-81706-33 FOR THE FAP SYSTEM P&ID AND RELATED UNID NUMBERS FOR EXISTING WELLS AND SUMPS



PI&D - WELL EW-03

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
 ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
 61510
 ARIZONA REGISTRATION NUMBER
 602-733-6100
 TELEPHONE NUMBER

P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER
HOA	HAND-OFF-AUTO
ETM	ELAPSED TIME METER
K	TIME
HS	HAND SWITCH
Q	TOTAL
L	LEVEL
Y	ACTUATOR
LI	LEVEL INDICATOR
PI	PRESSURE INDICATOR/SWITCH

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903



THIS SHEET WAS ORIGINALLY SEALED BY ANDREA KAGIE-HAY ON 05-11-2022

CHOLLA GENERATING STATION
 FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
 PIPING & INSTRUMENTATION SCHEMATIC
 FAP WELL EW-03



SCALE: NTS DATE: 03/18/2022



WORK SAFELY TODAY

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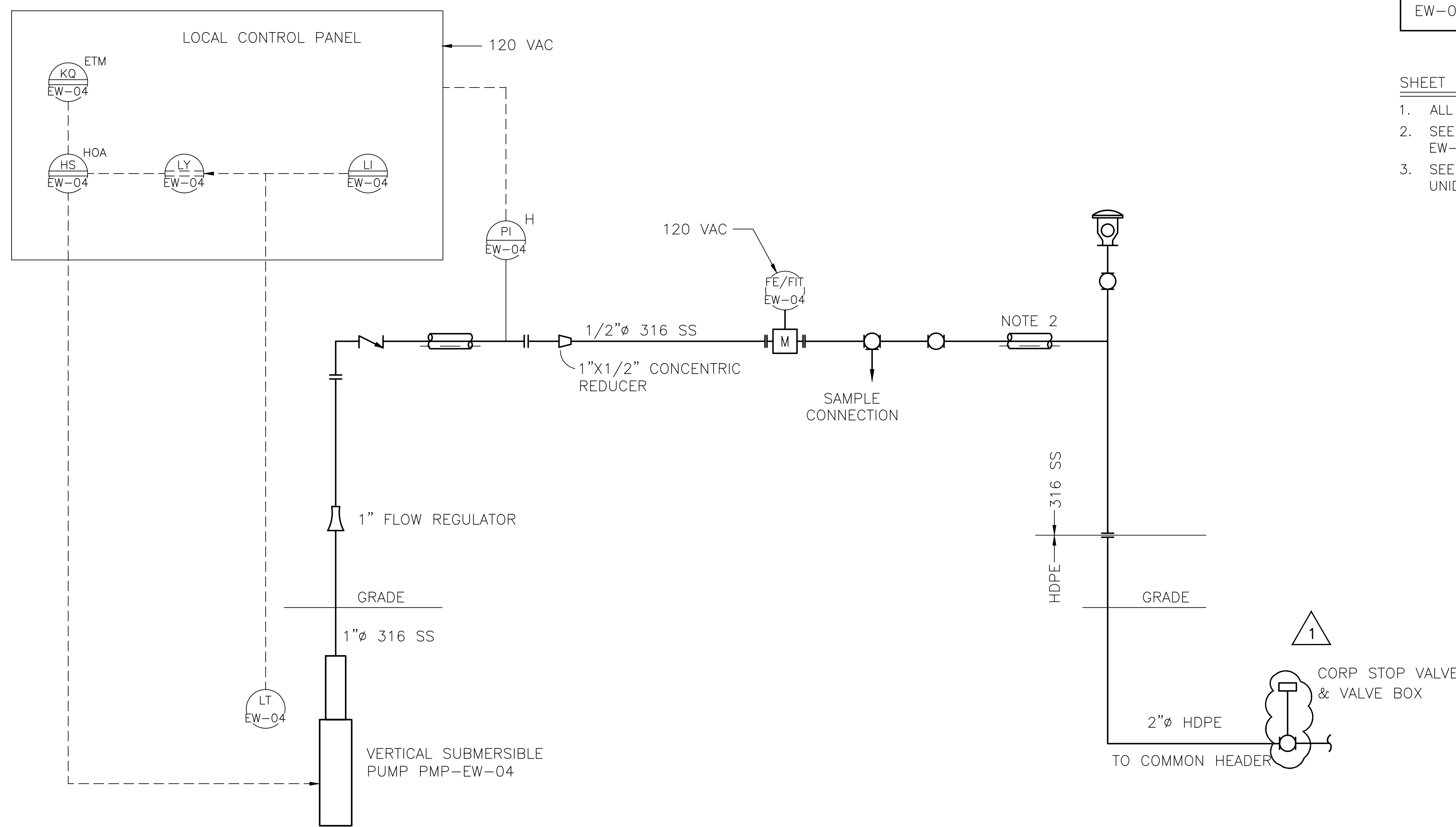
DWN	CRJ	EXD	TSL	APPROVED	W A	
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	02	BP	AP	230455	4

TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL TRANSMITTER NO.
EW-04	MTR-EW-04	CP-EW-04	FE-EW-04	LT-EW-04

SHEET NOTES:

1. ALL ABOVE-GRADE PIPING SHALL BE INSULATED AND HEAT TRACED.
2. SEE SHEETS 230455-2 THROUGH 230455-6 FOR P&IDs FOR WELLS EW-01 THROUGH EW-04 AND GSX-1R.
3. SEE SHEET G-81706-33 FOR THE FAP SYSTEM P&ID AND RELATED UNID NUMBERS FOR EXISTING WELLS AND SUMPS



PI&D - WELL EW-04

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
 ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
 61510
 ARIZONA REGISTRATION NUMBER
 602-733-6100
 TELEPHONE NUMBER

P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER
HOA	HAND-OFF-AUTO
ETM	ELAPSED TIME METER
K	TIME
HS	HAND SWITCH
Q	TOTAL
L	LEVEL
Y	ACTUATOR
LI	LEVEL INDICATOR
PI	PRESSURE INDICATOR/SWITCH

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

4600 E WASHINGTON ST, SUITE 600
 PHOENIX, ARIZONA 85034
 PHONE: 602-733-6000

THIS SHEET WAS
 ORIGINALLY
 SEALED BY
 ANDREA
 KAGIE-HAY ON
 05-11-2022

CHOLLA GENERATING STATION
 FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
 PIPING & INSTRUMENTATION SCHEMATIC
 FAP WELL EW-04



SCALE: NTS DATE: 03/18/2022

Call at least two full working days
 before you begin excavation.
ARIZONA 811
 Arizona One Stop, Inc.
 Dial 8-1-1 or 1-800-874-IT (782-8348)
 In Maricopa County: (602) 263-1100

WORK SAFELY TODAY

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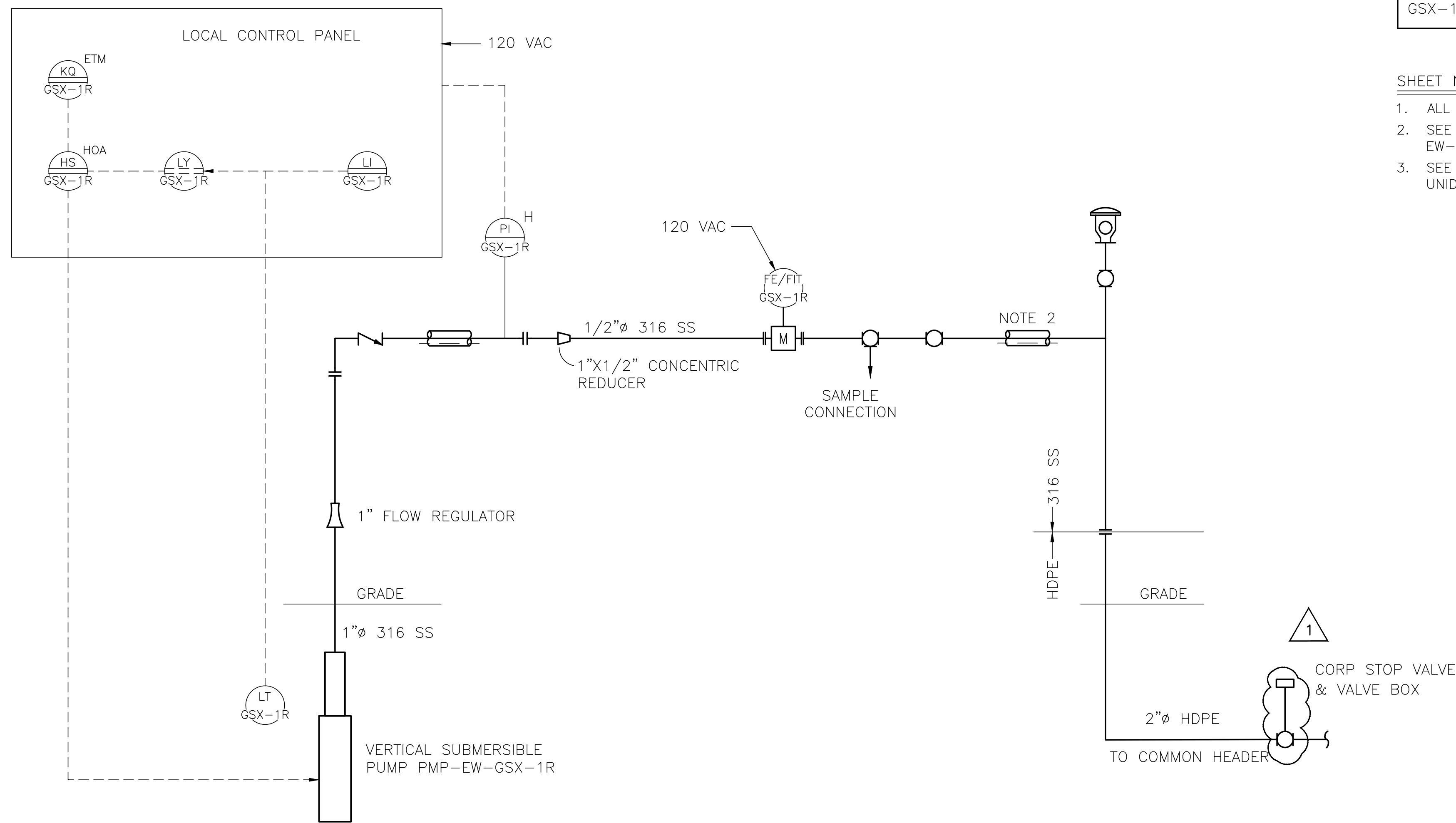
DWN	CRJ	EXD	TSL	APPROVED	W.A.	
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	02	BP	AP	230455	5

TAG NUMBER MATRIX

WELL NO.	PMP/MTR NO.	CP TAG NO.	MAG. FLOW METER NO.	LEVEL TRANSMITTER NO.
GSX-1R	MTR-GSX-1R	CP-GSX-1R	FE-GSX-1R	LT-GSX-1R

SHEET NOTES:

- ALL ABOVE-GRADE PIPING SHALL BE INSULATED AND HEAT TRACED.
- SEE SHEETS 230455-2 THROUGH 230455-6 FOR P&IDS FOR WELLS EW-01 THROUGH EW-04 AND GSX-1R.
- SEE SHEET G-81706-33 FOR THE FAP SYSTEM P&ID AND RELATED UNID NUMBERS FOR EXISTING WELLS AND SUMPS



P&ID - WELL GSX-1R

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ANDREA KAGIE-HAY 05/11/2023
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 61510
 ARIZONA REGISTRATION NUMBER
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P&ID LEGEND AND ABBREVIATIONS

	AIR RELEASE VALVE
	BALL VALVE
	3 WAY VALVE
	CHECK VALVE
	MAGNETIC FLOW METER
	INSULATION
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
LT	LEVEL TRANSMITTER
HOA	HAND-OFF-AUTO
ETM	ELAPSED TIME METER
K	TIME
HS	HAND SWITCH
Q	TOTAL
L	LEVEL
Y	ACTUATOR
LI	LEVEL INDICATOR
PI	PRESSURE INDICATOR/SWITCH

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.

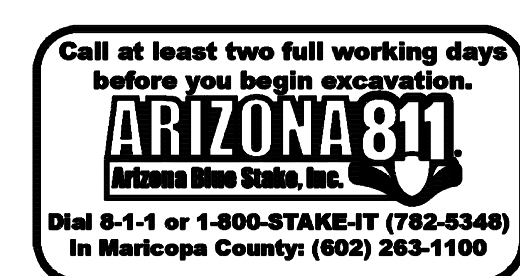


THIS SHEET WAS ORIGINALLY SEALED BY ANDREA KAGIE-HAY ON 05-11-2022

CHOLLA GENERATING STATION
 FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
 PIPING & INSTRUMENTATION SCHEMATIC
 FAP WELL GSX-1R



SCALE: NTS DATE: 03/18/2022



WORK SAFELY TODAY

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DWN	CRJ	EXD	TSL	APPROVED	W A	
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	02	BP	AP	230455	6

NOTES:

- FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND & GENERAL NOTES, SEE DRAWING 76000.
- COMMON DISCHARGE HEADER PIPE (MD-17) IS PHILLIPS DRISCOPE HIGH DENSITY POLYETHYLENE SERIES 1000 SDR 11, PER ASTM D-1248.
- CS = CARBON STEEL
SS = STAINLESS STEEL

REFERENCE DRAWINGS:

LIST OF DRAWINGS: 166515
VALVE & SPECIALTY LIST: 166519
INSTRUMENT LIST: 166520

UNID	EQUIPMENT NUMBER
1	
2	CH00CM-DM-FI-VLV-19
3	CH00CM-DM-FI-PMP-02
4	CH00CM-DM-FI-VLV-14
5	
6	CH00CM-DM-FI-VLV-08
7	CH00CM-DM-FI-PMP-06
8	CH00CM-DM-FI-VLV-06
9	
10	CH00CM-DM-FI-VLV-12
11	
12	CH00CM-DM-FI-PMP-01
13	
14	CH00CM-DM-FI-VLV-01
15	
16	
17	
18	CH00CM-DM-FI-VLV-07
19	
20	
21	
22	
23	CH00CM-DM-FI-PMP-03
24	CH00CM-DM-FI-VLV-03
25	
26	CH00CM-DM-FI-VLV-09
27	CH00CM-DM-FI-VLV-V12110
28	CH00CM-BP-AP-MET-METFAPO1
29	CH00CM-BP-AP-VLV-ABVFAPO1
30	CH00CM-BP-AP-VNVT-ARVFAPO1
31	CH00CM-BP-AP-MET-METFAPO2

NO.	DATE	REVISION	DWN	CHD	EXD	RWD	APVD	W.A.
12	5/11/23	ADDED VALVES/BOXES	DMW	RAW	ALK	MH		CH000803
11	3/18/22	ADDED 5 WELLS, MODIFIED EXISTING	CSB	WLF	RAW	MH		CH000803
10	9/27/17	ASBUILT	SB	WF	WF	BC		
9	9/15/13	ADDED UNID EQUIPMENT NUMBERS	SB	RW	SL	RC		CH785477
8	9/23/08	ADDED SLURRY LINES TO POND	M.V.	N/A	JSW	N/A	WAF	CT6638
7	9/6/07	PAID INSTRUMENT WALKDOWN	MW	LEA	FA			CT70718
6	1-11-06	AS-BUILT PER CHOLLA P & I D PROJECT	WBH					30-6801
5	1-8-96	ADD HUNT'S SEEP INTERCEPT	PRATT	TK				CAM 30-9147
4	6-12-95	ADD SUMP 2 @ GERONIMO SEEP	PRATT	TK				CAM 82-9072
3	1-30-94	GEN. REV. PER AS-BUILTS	PRATT	RJP	TK			CAM 82-9072
2	5-24-93	MODIFY FLOW METER NUMBERS	PRATT	TK				DWS 82-9072
1	4-28-93	REVISED PER CONSTRUCTABILITY REVIEW COMMENTS	PSS	TK				DWS 82-9072

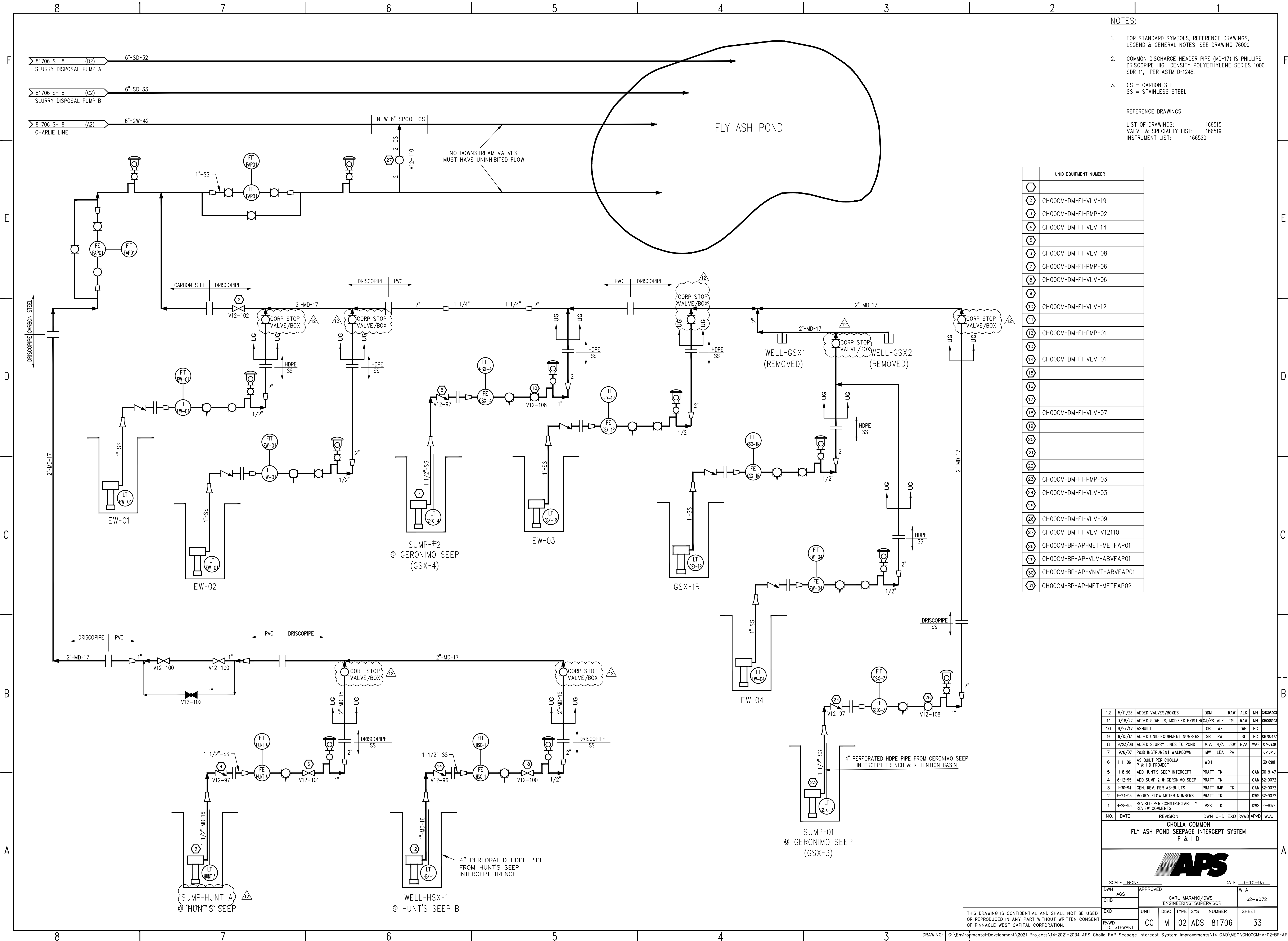
CHOLLA COMMON
FLY ASH POND SEEPAGE INTERCEPT SYSTEM
P & I D

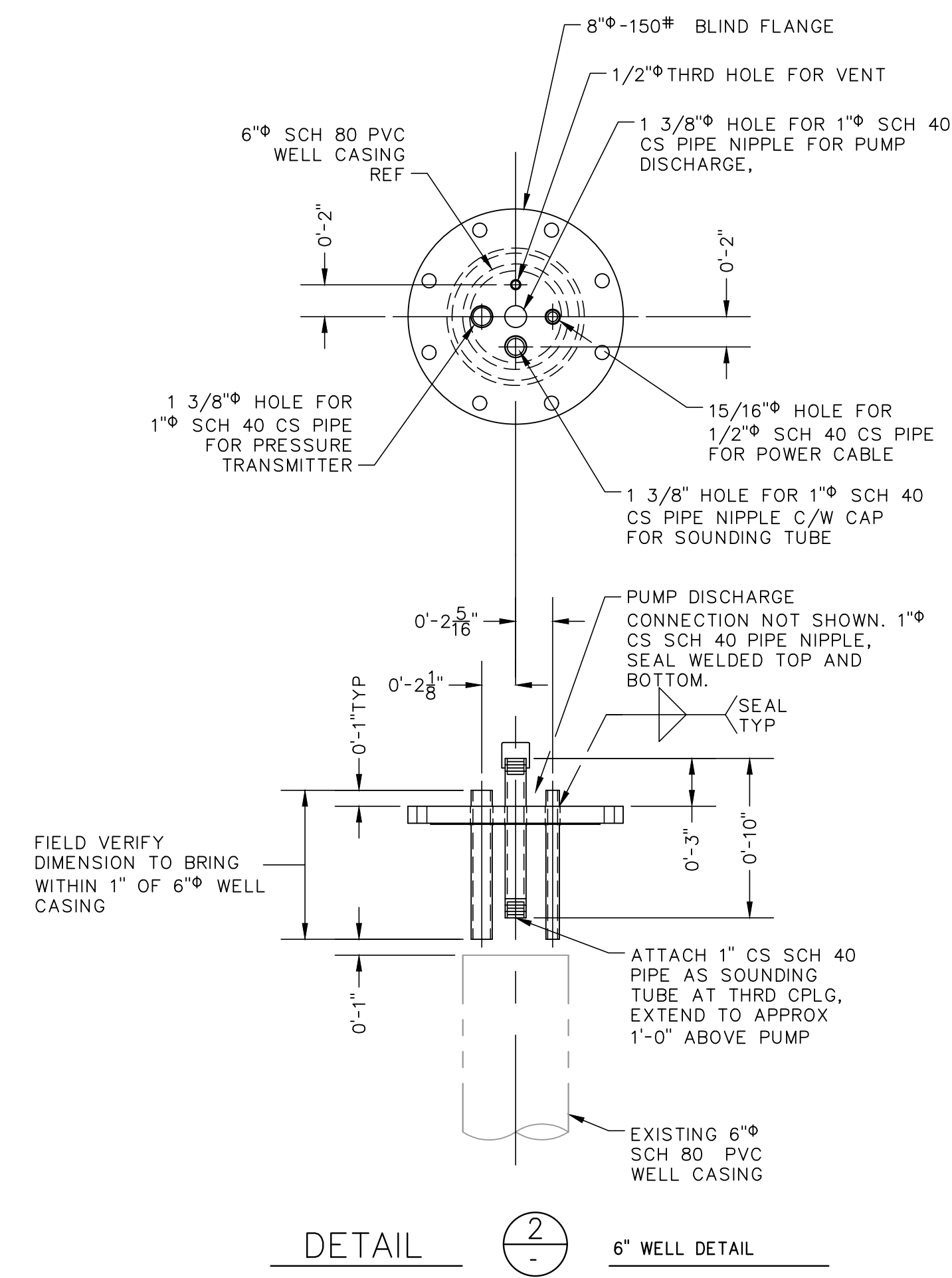
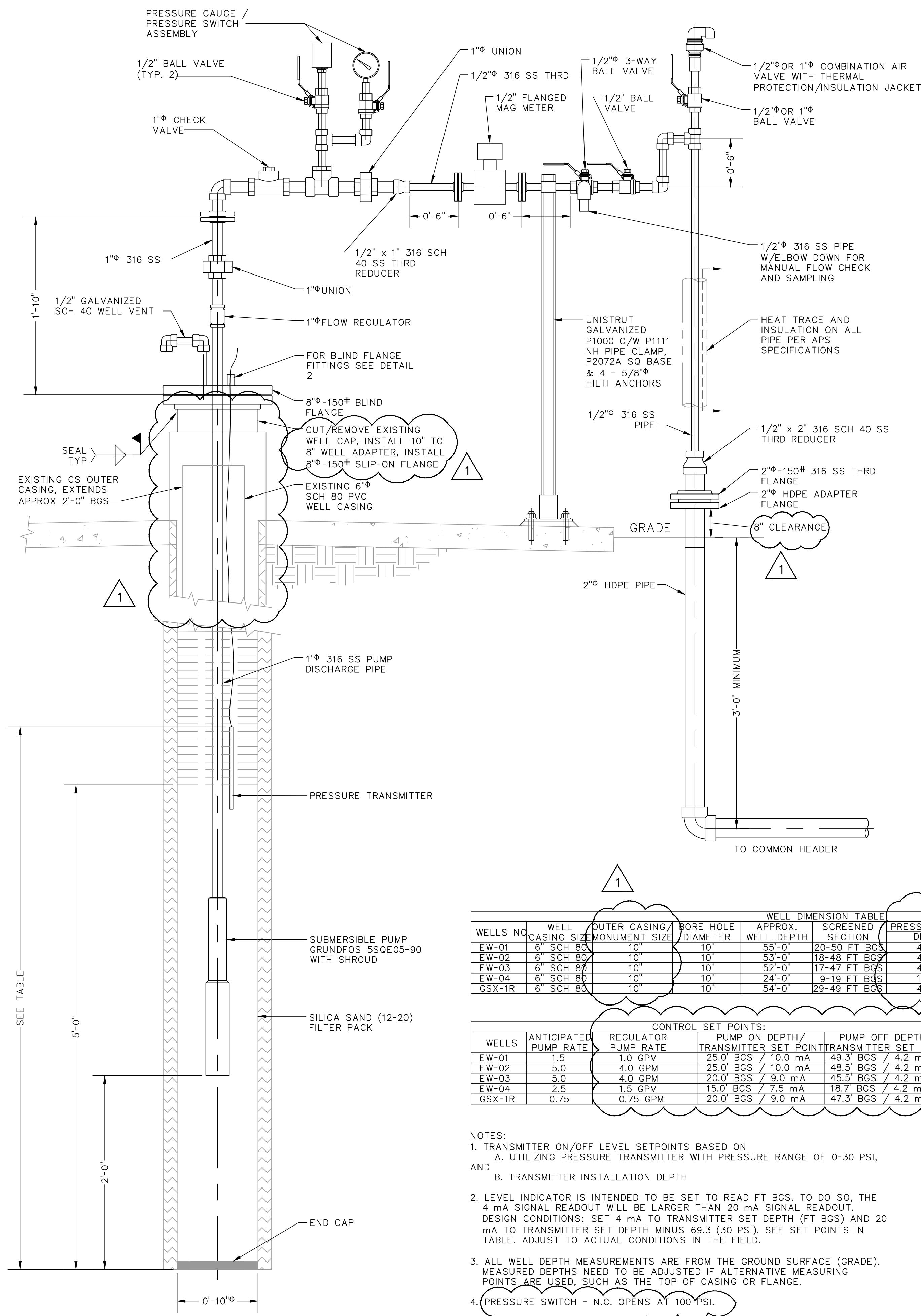


SCALE: NONE	DATE: 3-10-93
DWN: AGS	APPROVED: CARL MARANO/DWS
CHD: CHD	ENGINEERING SUPERVISOR
EXD: CC	UNIT: M
RWD: B. STEWART	DISC: M
	TYPE: ADS
	SYS: 02
	NUMBER: 81706
	SHEET: 33

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DRAWING: G:\Environmental-Development\2021 Projects\14-2021-2034 APS Cholla FAP Seepage Intercept System Improvements\14 CAD\WEC\CH00CM-M-02-BP-AP-8





WELL DIMENSION TABLE						
WELLS NO	WELL CASING SIZE	OUTER CASING MONUMENT SIZE	BORE HOLE DIAMETER	APPROX. WELL DEPTH	SCREENED SECTION	PRESSURE TRANSMITTER DEPTH (4mA)
EW-01	6" SCH 80	10"	10"	55'-0"	20-50 FT BGS	49.8 FT BGS
EW-02	6" SCH 80	10"	10"	53'-0"	18-48 FT BGS	49.0 FT BGS
EW-03	6" SCH 80	10"	10"	52'-0"	17-47 FT BGS	46.0 FT BGS
EW-04	6" SCH 80	10"	10"	24'-0"	9-19 FT BGS	19.2 FT BGS
GSX-1R	6" SCH 80	10"	10"	54'-0"	29-49 FT BGS	47.8 FT BGS

WELLS	ANTICIPATED PUMP RATE	CONTROL SET POINTS:			
		REGULATOR PUMP RATE	PUMP ON DEPTH/ TRANSMITTER SET POINT	PUMP OFF DEPTH/ TRANSMITTER SET POINT	
EW-01	1.5	1.0 GPM	25.0' BGS / 10.0 mA	49.3' BGS / 4.2 mA	
EW-02	5.0	4.0 GPM	25.0' BGS / 10.0 mA	48.5' BGS / 4.2 mA	
EW-03	5.0	4.0 GPM	20.0' BGS / 9.0 mA	45.5' BGS / 4.2 mA	
EW-04	2.5	1.5 GPM	15.0' BGS / 7.5 mA	18.7' BGS / 4.2 mA	
GSX-1R	0.75	0.75 GPM	20.0' BGS / 9.0 mA	47.3' BGS / 4.2 mA	

- NOTES:
- TRANSMITTER ON/OFF LEVEL SETPOINTS BASED ON A. UTILIZING PRESSURE TRANSMITTER WITH PRESSURE RANGE OF 0-30 PSI, AND B. TRANSMITTER INSTALLATION DEPTH
 - LEVEL INDICATOR IS INTENDED TO BE SET TO READ FT BGS. TO DO SO, THE 4 mA SIGNAL READOUT WILL BE LARGER THAN 20 mA SIGNAL READOUT. DESIGN CONDITIONS: SET 4 mA TO TRANSMITTER SET DEPTH (FT BGS) AND 20 mA TO TRANSMITTER SET DEPTH MINUS 69.3 (30 PSI). SEE SET POINTS IN TABLE. ADJUST TO ACTUAL CONDITIONS IN THE FIELD.
 - ALL WELL DEPTH MEASUREMENTS ARE FROM THE GROUND SURFACE (GRADE). MEASURED DEPTHS NEED TO BE ADJUSTED IF ALTERNATIVE MEASURING POINTS ARE USED, SUCH AS THE TOP OF CASING OR FLANGE.
 - PRESSURE SWITCH - N.C. OPENS AT 100 PSI.

DETAIL 1 - 6" EXTRACTION WELL EQUIPMENT
SCALE: 1 1/2"=1'-0"

AS-BUILT CERTIFICATION

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ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
WELL AND PIPING DETAILS - SHT 1



SCALE 1 1/2"=1'-0" DATE 03/18/2022

DWN	CRJ	EXD	TSL	APPROVED	W.A.
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	65	BP	AP	230455	7

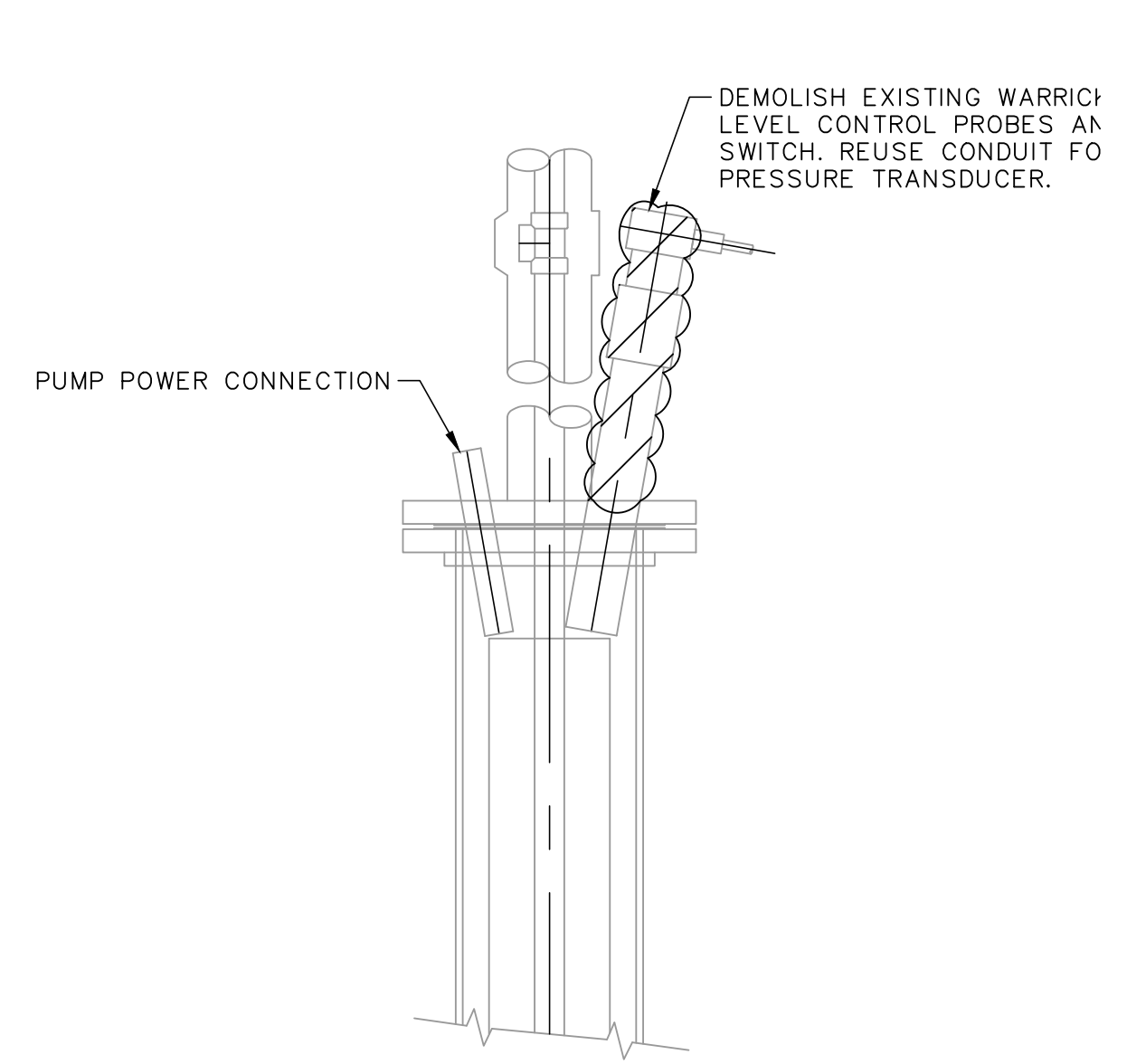
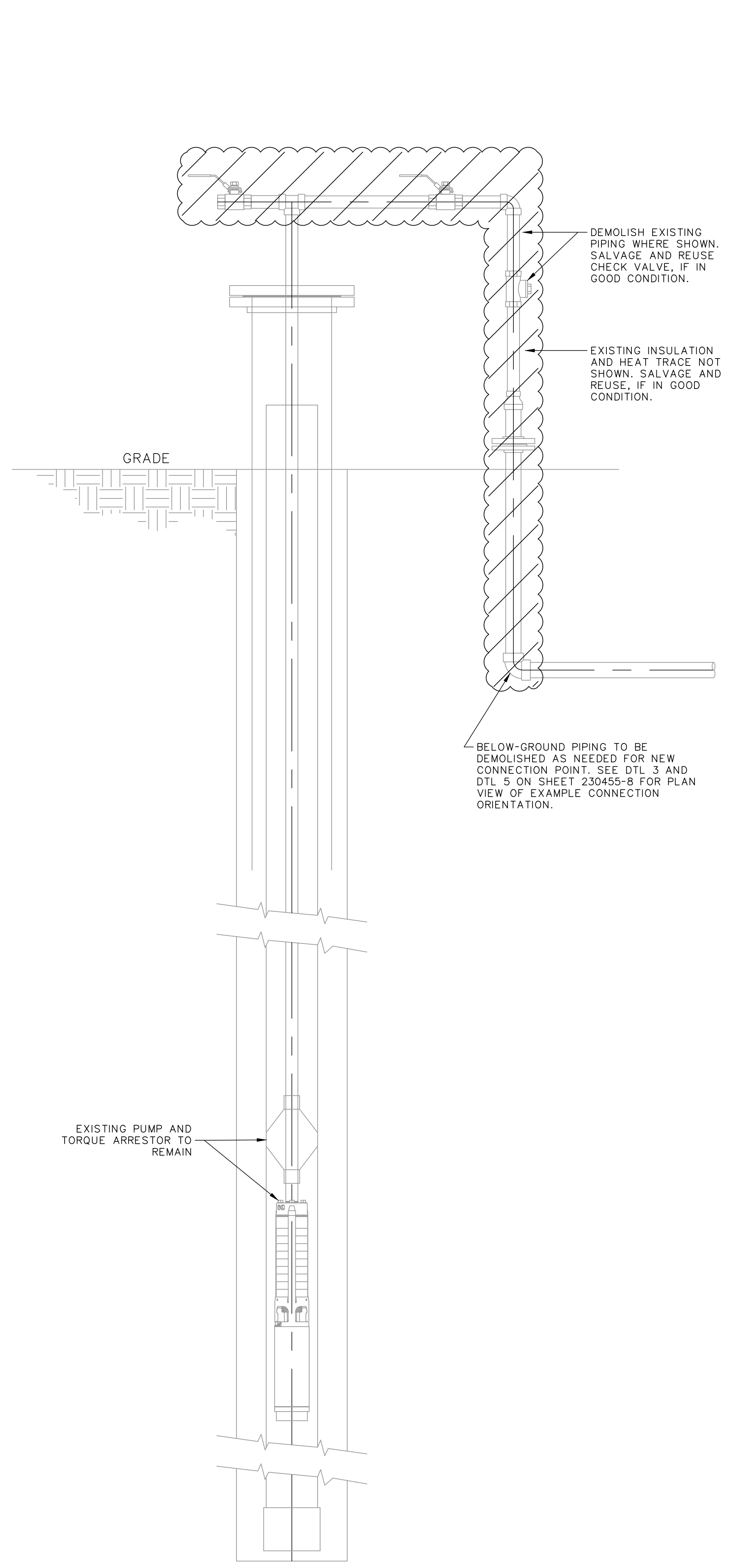
wsp
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS
ORIGINALLY
SEALED BY
ANDREA
KAGIE-HAY ON
05-11-2022

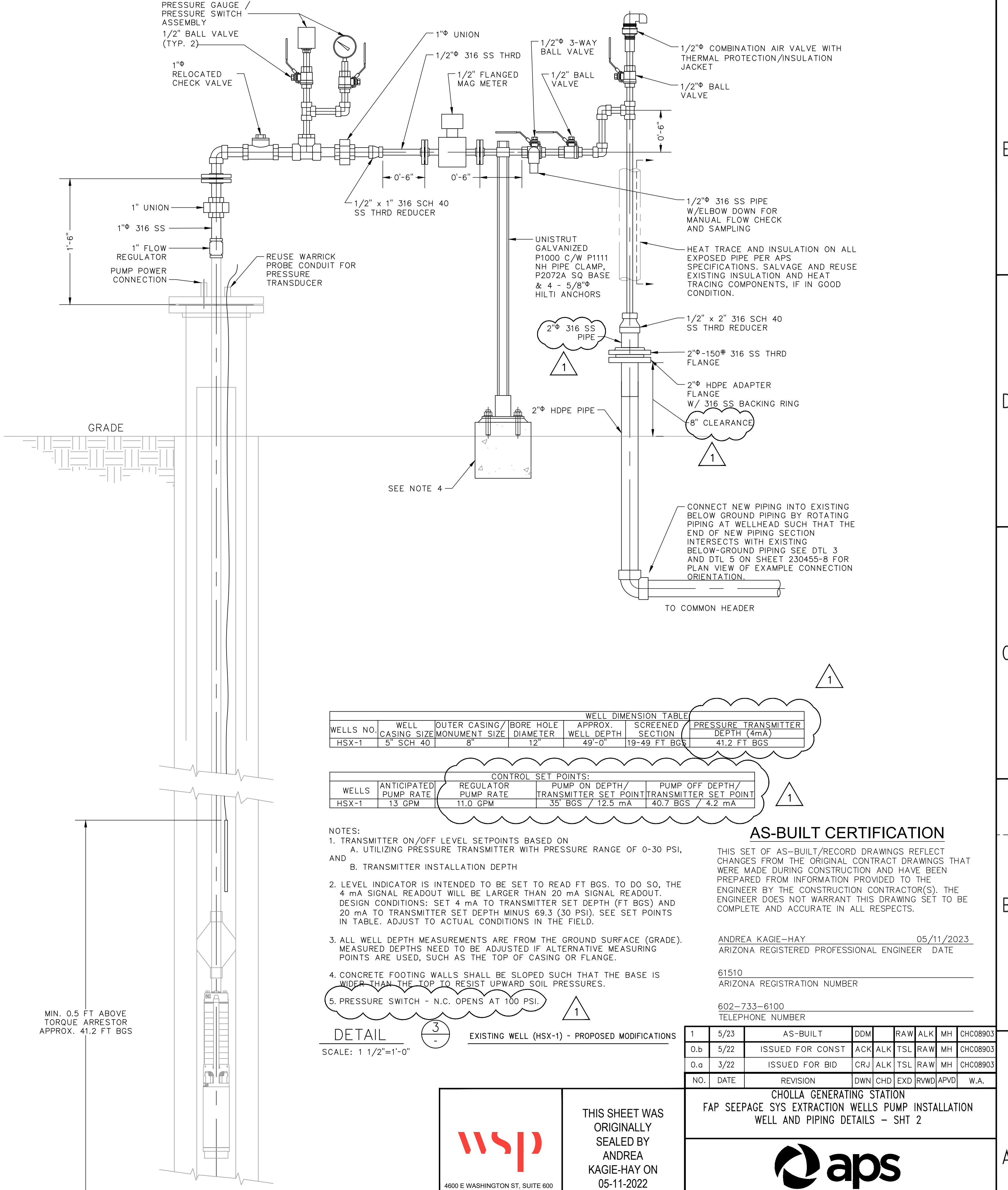
Call at least two full working days
before you begin excavation.
ARIZONA 811
Arizona One Stop, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

WORK SAFELY TODAY

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DETAIL 2
SCALE: 1 1/2"=1'-0" TYP. WELL HEAD



WELLS NO.	CASING SIZE	MONUMENT SIZE	OUTER CASING/BORE HOLE DIAMETER	WELL DIMENSION TABLE		PRESSURE TRANSMITTER DEPTH (4mA)
				APPROX. WELL DEPTH	SCREENED SECTION	
HSX-1	5" SCH 40	8"	12"	49'-0"	19'-49' FT BGS	41.2 FT BGS

WELLS	ANTICIPATED PUMP RATE	CONTROL SET POINTS:	
		REGULATOR PUMP RATE	PUMP OFF DEPTH/TRANSMITTER SET POINT
HSX-1	13 GPM	11.0 GPM	35' BGS / 12.5 mA / 40.7 BGS / 4.2 mA

- NOTES:
- TRANSMITTER ON/OFF LEVEL SETPOINTS BASED ON:
 - UTILIZING PRESSURE TRANSMITTER WITH PRESSURE RANGE OF 0-30 PSI, AND TRANSMITTER INSTALLATION DEPTH
 - LEVEL INDICATOR IS INTENDED TO BE SET TO READ FT BGS. TO DO SO, THE 4 mA SIGNAL READOUT WILL BE LARGER THAN 20 mA SIGNAL READOUT. DESIGN CONDITIONS: SET 4 mA TO TRANSMITTER SET DEPTH (FT BGS) AND 20 mA TO TRANSMITTER SET DEPTH MINUS 69.3 (30 PSI). SEE SET POINTS IN TABLE. ADJUST TO ACTUAL CONDITIONS IN THE FIELD.
 - ALL WELL DEPTH MEASUREMENTS ARE FROM THE GROUND SURFACE (GRADE). MEASURED DEPTHS NEED TO BE ADJUSTED IF ALTERNATIVE MEASURING POINTS ARE USED, SUCH AS THE TOP OF CASING OR FLANGE.
 - CONCRETE FOOTING WALLS SHALL BE SLOPED SUCH THAT THE BASE IS WIDER THAN THE TOP TO RESIST UPWARD SOIL PRESSURES.
 - PRESSURE SWITCH - N.C. OPENS AT 100 PSI.

AS-BUILT CERTIFICATION

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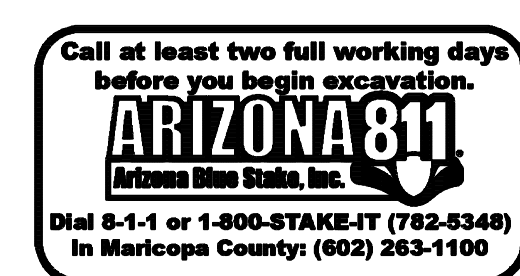
61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

DETAIL 3
SCALE: 1 1/2"=1'-0" EXISTING WELL (HSX-1) - PROPOSED MODIFICATIONS

NO.	DATE	REVISION	DWN	CHD	EXD	RWD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

DETAIL 1
SCALE: 1 1/2"=1'-0" EXISTING WELL (HSX-1) - PROPOSED DEMOLITION



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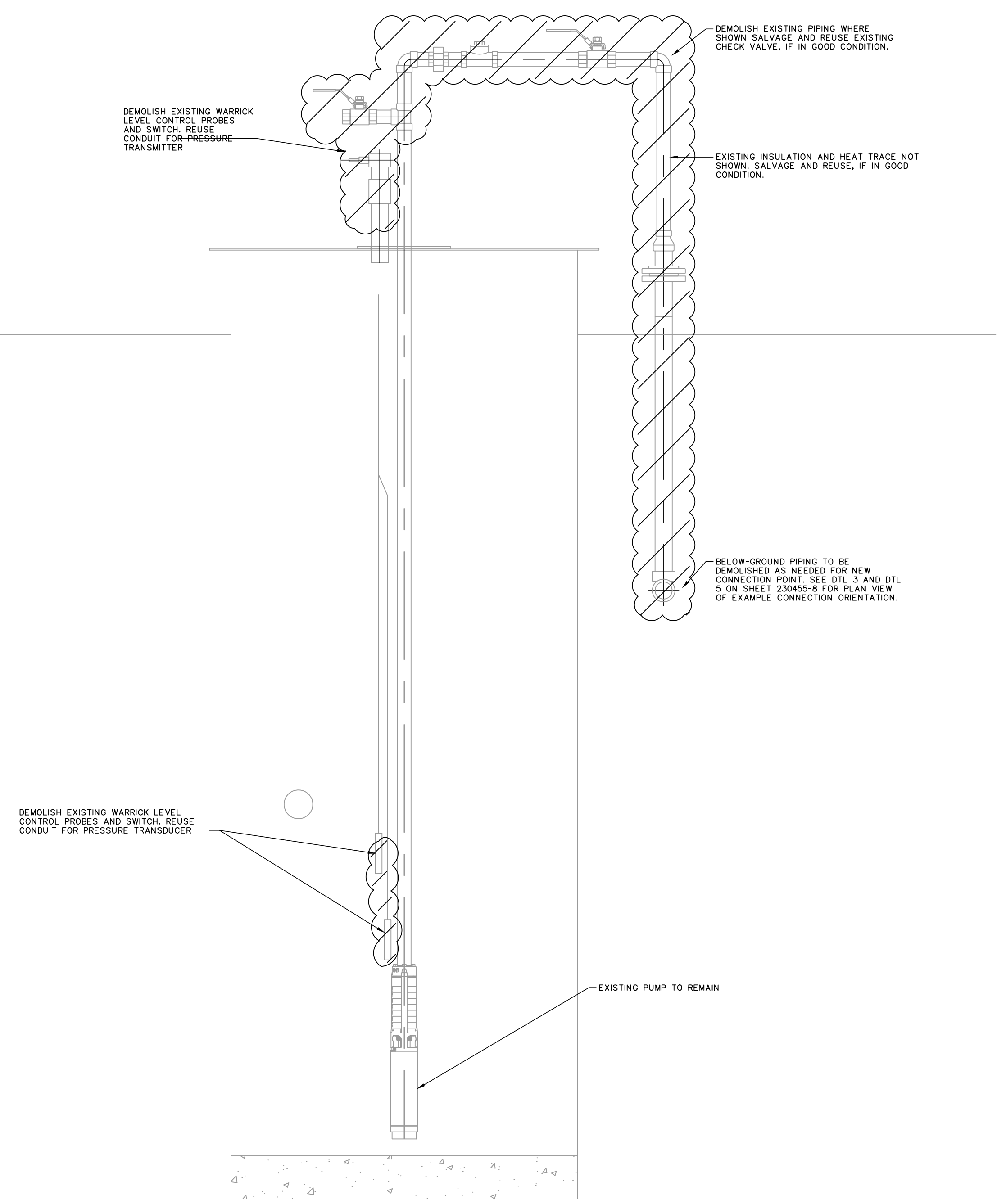
CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
WELL AND PIPING DETAILS - SHT 2



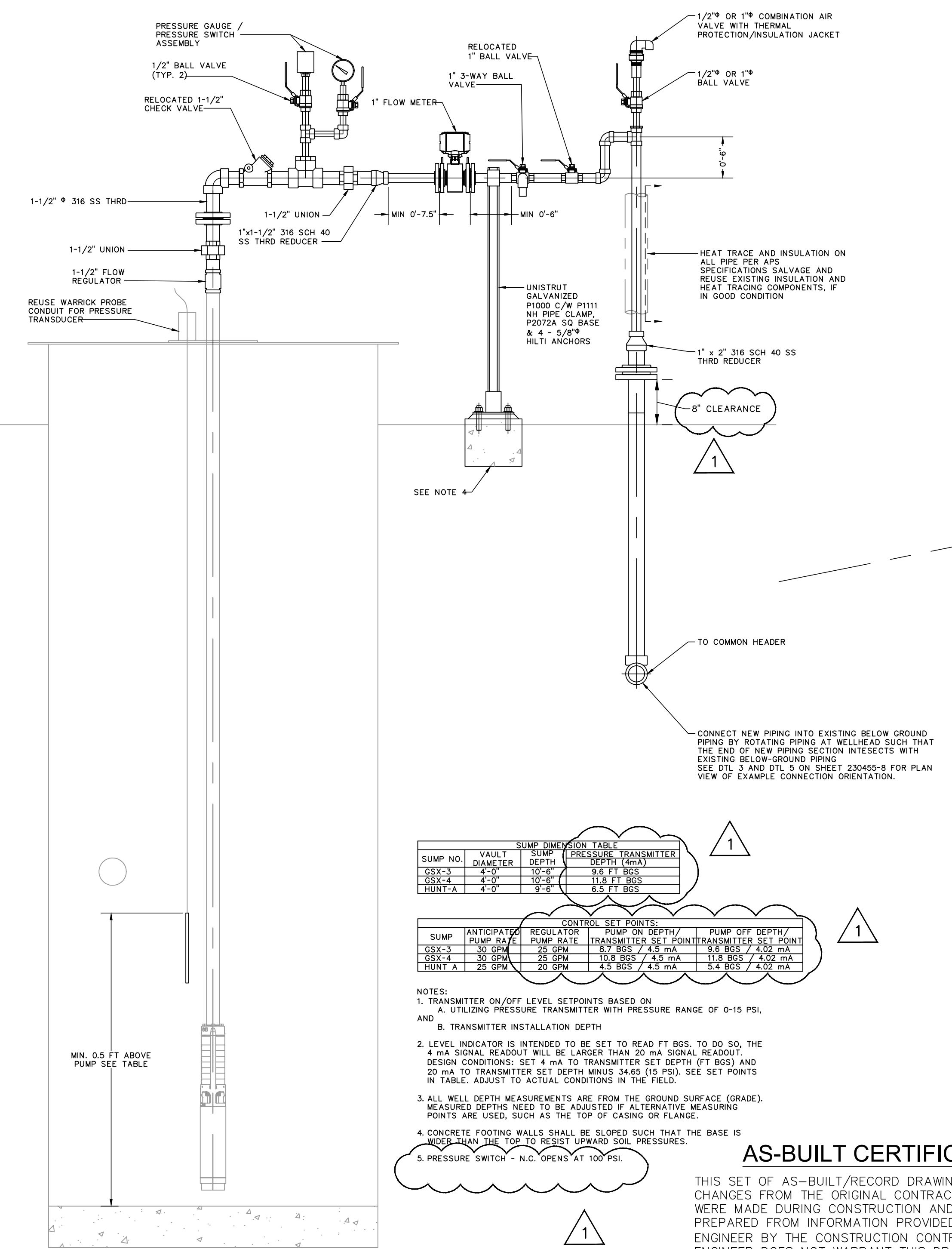
SCALE: 1 1/2"=1'-0" DATE: 03/18/2022

DWN	CHD	EXD	TSL	APPROVED	W.A.
CRJ	ALK	RWD	RAW	MAREN HENLEY	CHC08903
DRAWING APPROVED BY					

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	65	BP	AP	230455	8



DETAIL 4
SCALE: 1 1/2"=1'-0"
EXISTING SUMPS - PROPOSED DEMOLITION



SUMP DIMENSION TABLE

SUMP NO.	VAULT DIAMETER	SUMP DEPTH	PRESSURE TRANSMITTER DEPTH (ft BGS)
SS3-3	4'-0"	10'-6"	9.8 FT BGS
SS3-4	4'-0"	10'-6"	11.8 FT BGS
HUNT-A	4'-0"	9'-6"	6.8 FT BGS

CONTROL SET POINTS:

SUMP	ANTICIPATED PUMP RATE	REGULATOR PUMP RATE	PUMP ON DEPTH / TRANSMITTER SET POINT	PUMP OFF DEPTH / TRANSMITTER SET POINT
SS3-3	30 GPM	25 GPM	8.7 BGS / 4.5 mA	9.8 BGS / 4.02 mA
SS3-4	30 GPM	25 GPM	10.8 BGS / 4.5 mA	11.8 BGS / 4.02 mA
HUNT-A	25 GPM	20 GPM	4.5 BGS / 4.5 mA	5.4 BGS / 4.02 mA

- NOTES:**
- TRANSMITTER ON/OFF LEVEL SETPOINTS BASED ON:
 - UTILIZING PRESSURE TRANSMITTER WITH PRESSURE RANGE OF 0-15 PSI.
 - TRANSMITTER INSTALLATION DEPTH
 - LEVEL INDICATOR IS INTENDED TO BE SET TO READ FT BGS. TO DO SO, THE 4 mA SIGNAL READOUT WILL BE LARGER THAN 20 mA SIGNAL READOUT. DESIGN CONDITIONS: SET 4 mA TO TRANSMITTER SET DEPTH (FT BGS) AND 20 mA TO TRANSMITTER SET DEPTH MINUS 34.55 (15 PSI). SEE SET POINTS IN TABLE. ADJUST TO ACTUAL CONDITIONS IN THE FIELD.
 - ALL WELL DEPTH MEASUREMENTS ARE FROM THE GROUND SURFACE (GRADE). MEASURED DEPTHS NEED TO BE ADJUSTED IF ALTERNATIVE MEASURING POINTS ARE USED, SUCH AS THE TOP OF CASING OR FLANGE.
 - CONCRETE FOOTING WALLS SHALL BE SLOPED SUCH THAT THE BASE IS WIDER THAN THE TOP TO RESIST UPWARD SOIL PRESSURES.
 - PRESSURE SWITCH - N.C. OPENS AT 100 PSI.

AS-BUILT CERTIFICATION
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ANDREA KAGIE-HAY 05/11/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

61510
ARIZONA REGISTRATION NUMBER

602-733-6100
TELEPHONE NUMBER

DETAIL 5
SCALE: 1 1/2"=1'-0"
EXISTING SUMPS - PROPOSED MODIFICATIONS

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

THIS SHEET WAS
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KAGIE-HAY ON
05-11-2022

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
WELL AND PIPING DETAILS - SHT 3

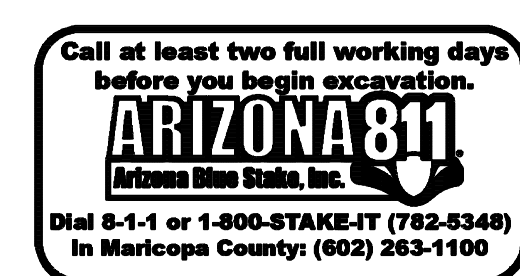
SCALE 1 1/2"=1'-0"

DATE 03/18/2022

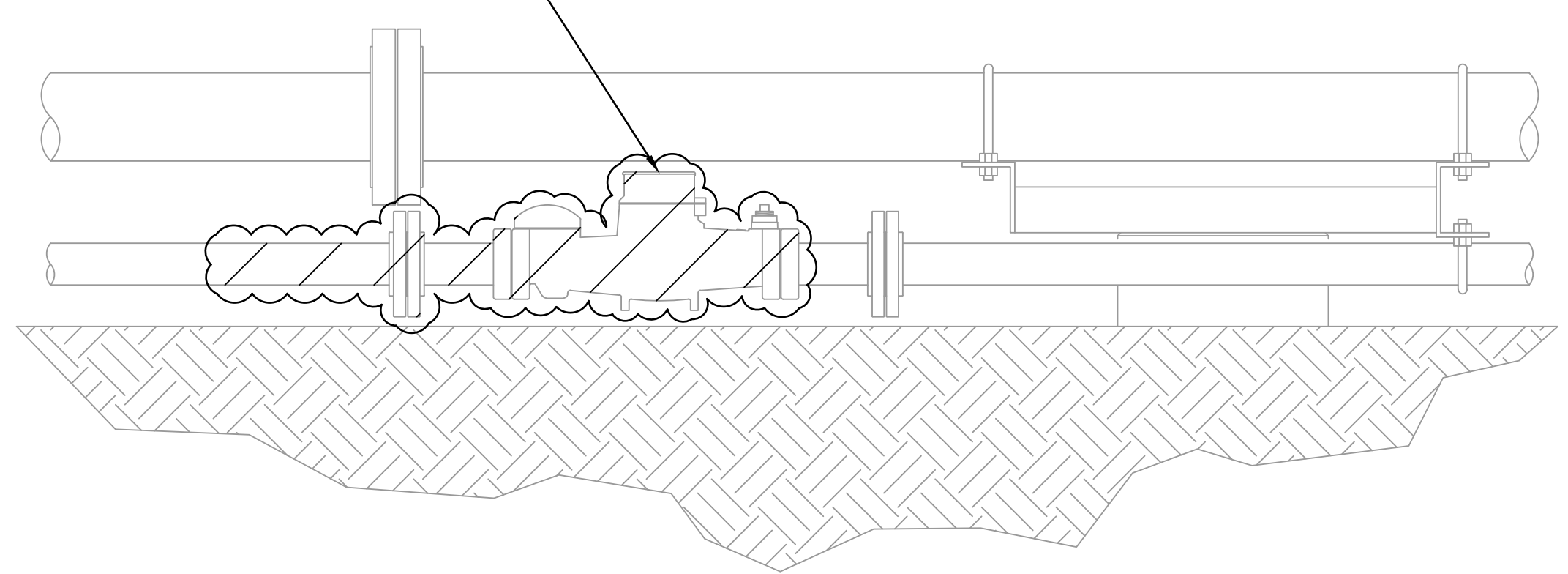
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	65	BP	AP	230455	9

WORK SAFELY TODAY

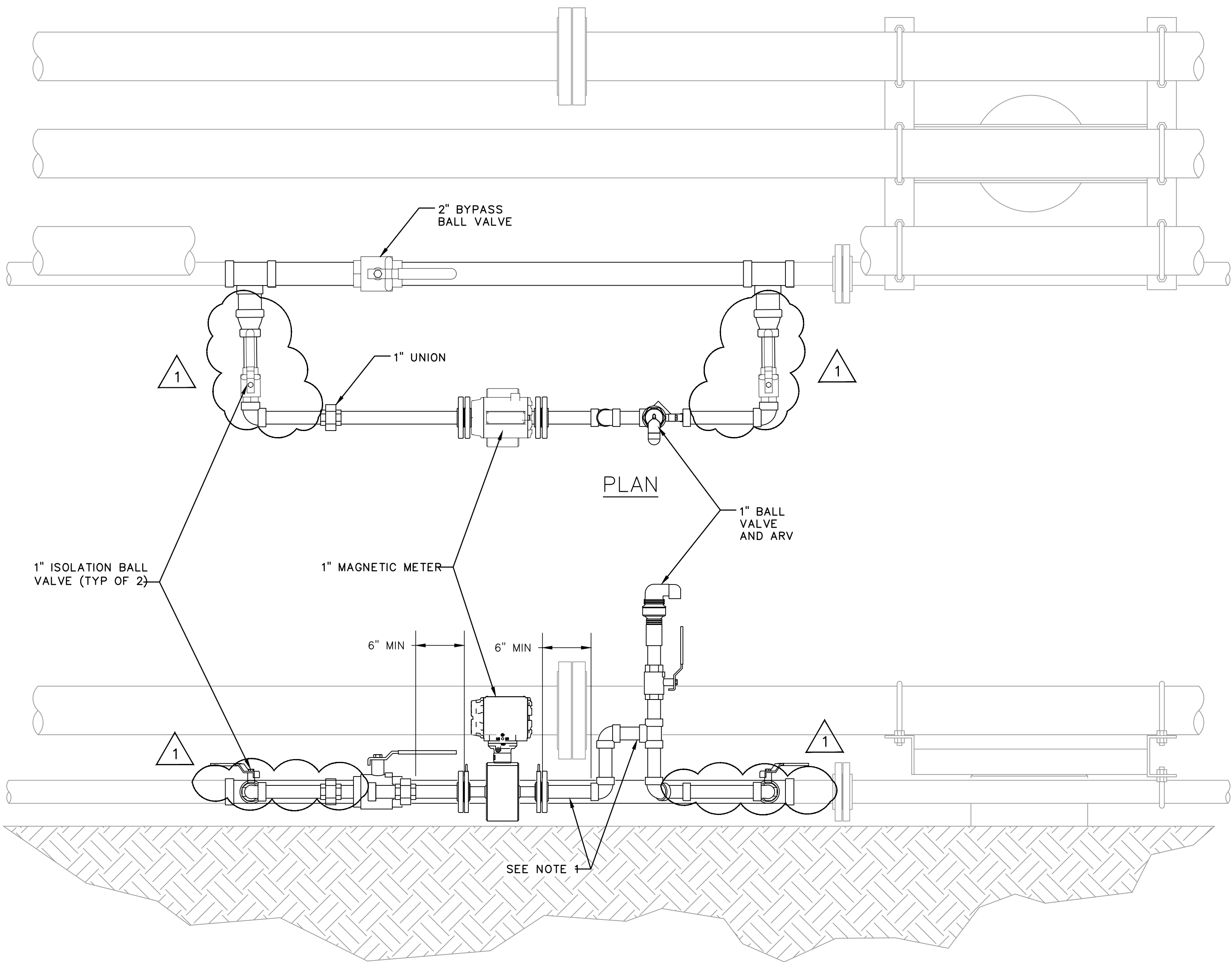
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DEMOLISH EXISTING OMNI R2 FLOW METER AND PIPING WHERE SHOWN AND AS NECESSARY FOR INSTALLATION OF NEW PIPING AND METER IN DETAIL 2



DETAIL 1 HUNT SYSTEM FLOW METER DEMOLITION
NTS



DETAIL 2 HUNT SYSTEM FLOW METER INSTALLATION
NTS

AS-BUILT CERTIFICATION

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- NOTES:
1. PROVIDE PIPE SUPPORTS FOR NEW PIPING AT METER AND AIR RELEASE VALVE AT A MINIMUM UTILIZING UNISTRUT AND PIPE STRAPS. SUPPORT OFF OF EXISTING W-BEAMS WHERE POSSIBLE. POUR CONCRETE PADS WHERE NO SUPPORT STRUCTURE EXISTS.
 2. CONCRETE FOOTING WALLS SHALL BE SLOPED SUCH THAT THE BASE IS WIDER THAN THE TOP TO RESIST UPWARD SOIL PRESSURES.
 3. REINSTALL, REPLACE, AND PROVIDE NEW INSULATION AS NEEDED ON THE FLOW METER, VALVES AND PIPING INCLUDING THE BYPASS LINE AND AN INSULATION JACKET ON THE ARV. EXTEND INSULATION AT LEAST 10 FEET ON EITHER SIDE OF THE FLOW METER ASSEMBLY.

1	5/23	AS-BUILT	DDM	RAW	ALK	MH	CHC08903	
0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
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CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
HUNT SYSTEM FLOW METER DETAILS

SCALE: NTS DATE: 03/18/2022

4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

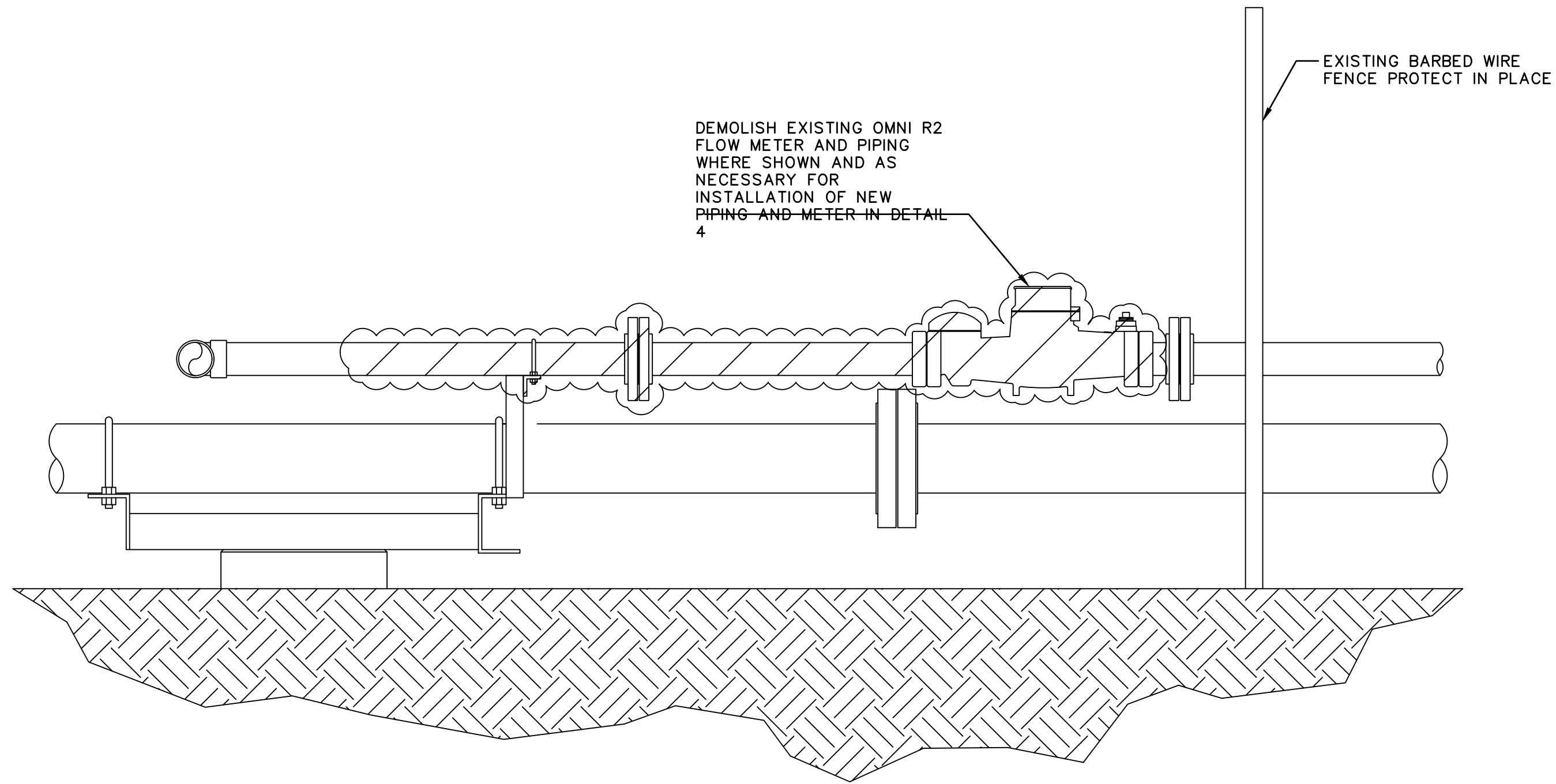
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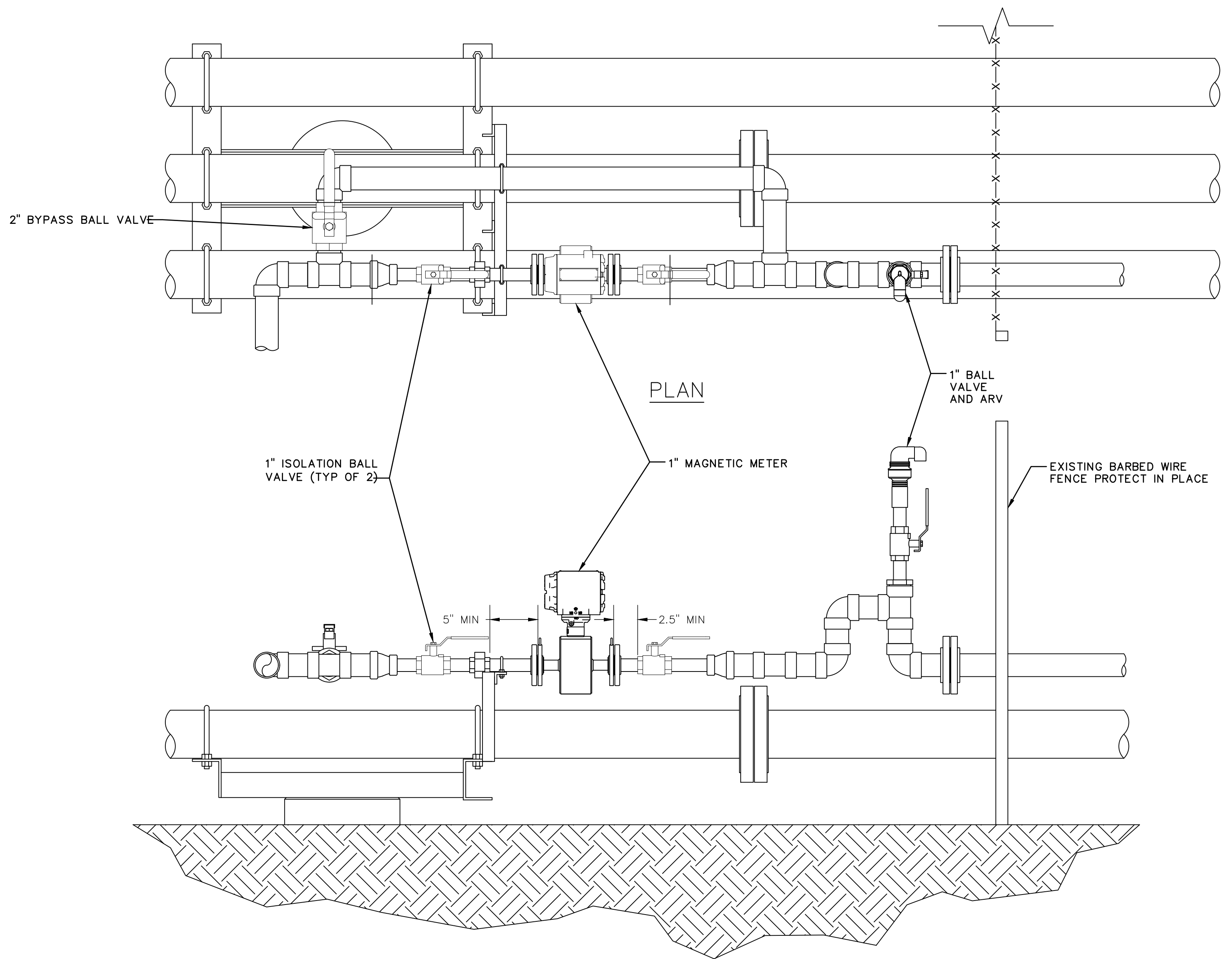
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Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona One Stop, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-6348) in Maricopa County: (602) 263-1100

DWN	CRJ	EXD	TSL	APPROVED	W.A.	
CHD	ALK	RWVD	RAW	MAREN HENLEY DRAWING APPROVED BY	CHC08903	
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	65	BP	AP	230455	10



DETAIL NTS 3 COMBINED GERONIMO/HUNT SYSTEM FLOW METER DEMOLITION



SECTION
DETAIL NTS 4 COMBINED GERONIMO/HUNT SYSTEM FLOW METER INSTALLATION

AS-BUILT CERTIFICATION

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0.b	5/22	ISSUED FOR CONST	ACK	ALK	TSL	RAW	MH	CHC08903
0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.



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CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
HUNT/GERONIMO SYSTEM FLOW METER DETAILS

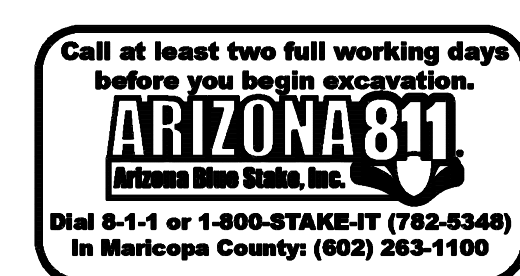


SCALE: NTS DATE: 03/18/2022

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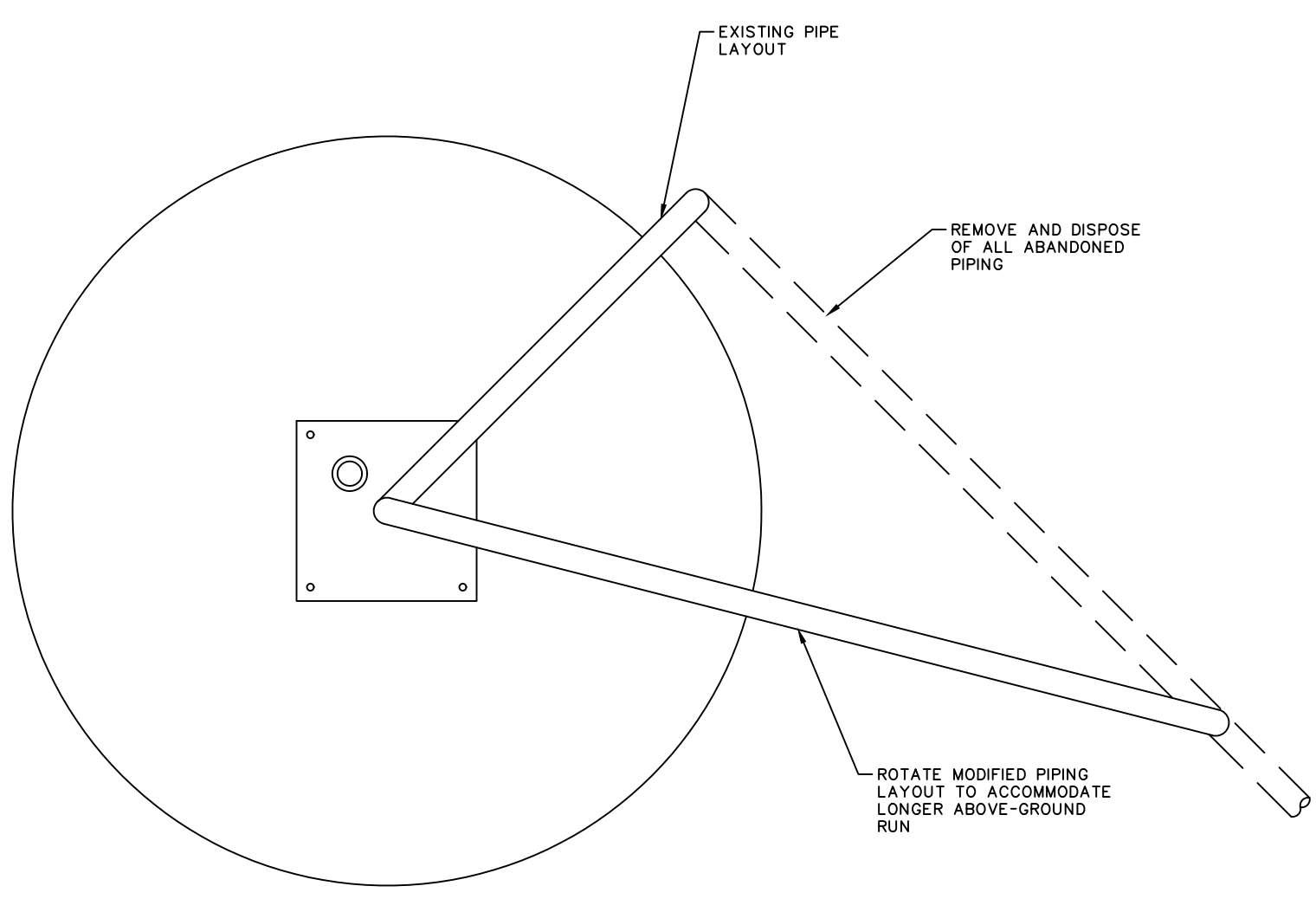
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DWN	CRJ	EXD	TSL	APPROVED	W A
CHD	ALK	RWVD	RAW	MAREN HENLEY	CHC08903
DRAWING APPROVED BY					
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER
CH00CM	M	65	BP	AP	230455
					SHEET
					11



8 7 6 5 4 3 2 1

E
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A



NOTES:
1. VALVES, METERS AND APPURTENANCES NOT SHOWN.

DETAIL
SCALE: 1 1/2"=1'-0"

5
-
EXAMPLE PIPING CONNECTION ORIENTATION

AS-BUILT CERTIFICATION

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0.a	3/22	ISSUED FOR BID	CRJ	ALK	TSL	RAW	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.



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CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
WELL ORIENTATION DETAIL



SCALE 1 1/2"=1'-0" DATE 03/18/2022



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DWN	CRJ	EXD	TSL	APPROVED		W A
CHD	ALK	RVWD	RAW	MAREN HENLEY DRAWING APPROVED BY		CHC08903
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	M	65	BP	AP	230455	12

8 7 6 5 4 3 1

FAP SEEPAGE SYSTEM EXTRACTION WELLS PUMP INSTALLATION WA# CHC08903
ELECTRICAL INSTALLATION SCOPE

INTRODUCTION – APS CHOLLA PRESENTLY HAS A FAP SEEPAGE SYSTEM WITH 4 EXISTING WELL PUMPS AND TWO ABANDONED PUMPS. THIS PROJECT INCLUDES UPGRADING THE EXISTING 4 PUMP CONTROLS, DEMOLISHING THE TWO ABANDONED PUMP CONTROLS, AND ADDING 5 NEW PUMPS WITH THEIR ASSOCIATED ELECTRICAL EQUIPMENT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION, CONDITION, AND SPECIFICATIONS OF ALL ELECTRICAL COMPONENTS, LOCATIONS AND DEPTHS OF WIRING AND CONDUIT PRIOR TO COMMENCING ANY WORK ON THE SITE.

DEMOLITION – GSX-1 AND GSX-2 WELL PUMPS ARE PRESENTLY REMOVED AND OUT OF SERVICE. CONTRACTOR IS TO REMOVE THEIR ASSOCIATED ELECTRICAL EQUIPMENT, WHICH INCLUDES WIRING FROM ELECTRICAL PANEL 24A1 TO STARTERS, AND FROM STARTERS TO PUMPS. REMOVE EXISTING STARTER PANELS AND LEVEL CONTROLS. REMOVE EXISTING HEAT TRACING. DO NOT REMOVE EXISTING PANEL 24A1 BREAKERS – THEY WILL BE RE-USED TO FEED NEW WELL PUMPS. REFER TO DRAWING 240456 SHEET 3D FOR MORE DETAILS.

NEW WELL ELECTRICAL EQUIPMENT INSTALLATION – NEW EW-1 THRU 4 AND GSX-1R WELL PUMPS ELECTRICAL ARE TO BE INSTALLED, WHICH INCLUDES:

1. WIRING FROM EXISTING PANEL 24A1 POWER PANEL TO NEW MOTOR STARTER PANELS. EW-3 & 4 WILL UTILIZE EXISTING PANEL BREAKERS PREVIOUSLY USED BY GSX-1 & 2 PUMPS (SEE DEMOLITION ABOVE).
2. CONTRACTOR TO PROVIDE AND INSTALL NEW GSX-1R FEEDER BREAKER AND ASSOCIATED HEAT TRACE FEEDER BREAKER IN EXISTING PANEL 24A1.
3. CONTRACTOR TO PROVIDE AND INSTALL NEW EW-2 FEEDER BREAKER AND ASSOCIATED HEAT TRACE FEEDER BREAKER IN EXISTING PANEL 24A2.
4. CONTRACTOR TO PROVIDE AND INSTALL NEW EW-1 POWER PANEL WITH ITS ASSOCIATED FEEDER BREAKERS. REFER TO PROJECT B44308 DRAWINGS.
5. CONTRACTOR TO PROVIDE FIVE (5) NEW PUMP MOTOR STARTER PANELS PER THE PROJECT B-44450 DRAWINGS. START PANELS SHALL INCLUDE: STARTERS, MOORE INDUSTRIES SPA2/HLPRG/2PRG/UI-DPDT/DIN ALARM RELAY LEVEL CONTROLLERS. ALL ASSOCIATED CIRCUIT BREAKERS, AND TERMINAL BLOCKS PER THE DRAWINGS. THE STARTER PANEL DOOR SHALL INCLUDE AN ETM, HAND-OFF-AUTO (HOA) SELECTOR SWITCH, AND E+H RIA15 LEVEL DISPLAY. ALL DEVICES SHALL BE WIRED AND LABELED PER THE DRAWINGS. PANEL ENCLOSURE SHALL BE NEMA 4 RATED. ALL NEW PUMP MOTOR STARTER PANELS SHALL BE FABRICATED, WIRED, TESTED AND LABELED TO MEET UL 508 BY A CERTIFIED INDUSTRIAL CONTROL PANEL FABRICATOR.
6. CONTRACTOR SHALL PROVIDE AND INSTALL NEW ENDRESS-HAUSER (E+H) LEVEL TRANSMITTERS AND PROVIDE WIRING FROM TRANSMITTERS TO THEIR LEVEL DISPLAYS AND MOORE LEVEL RELAY CONTROLLERS.
7. CONTRACTOR SHALL PROVIDE AND INSTALL NEW ROSEMOUNT FLOW TRANSMITTERS AND PROVIDE POWER WIRING FROM STARTER PANEL BREAKERS TO TRANSMITTERS.
8. CONTRACTOR SHALL PROVIDE AND INSTALL THE PRESSURE SWITCHES, PROVIDE POWER WIRING FROM STARTER PANEL BREAKERS TO SWITCHES, AND CONTROL WIRING FROM HIGH PRESSURE SWITCH CONTACT TO ITS RESPECTIVE STARTER.
9. CONTRACTOR SHALL PROVIDE AND INSTALL NEW HEAT TRACING EQUIPMENT FOR ALL NEW WELL PIPING ABOVE GROUND. ALSO WIRING FROM POWER PANEL FEEDER BREAKER TO HEAT TRACING EQUIPMENT.
10. THE EXISTING HUNT POWER CIRCUIT SHALL BE INTERRUPTED IN MID-RUN (UNDERGROUND) TO PROVIDE POWER TO PANEL 24A12. PULL BOX 23428 CAN BE USED TO ASSIST IN THIS EFFORT. THE EXISTING CONDUIT RUN SHALL BE MODIFIED TO INSTALL A NEW PULL BOX (23428) INLINE WHICH WILL HAVE A NEW UNDERGROUND SPUR CONNECTION TO THE 24A12 PANEL. CABLE SHALL BE TEE'D OFF AT PULL BOX 23428 SUCH THAT A WATER TIGHT CONNECTION IS MAINTAINED FOR ALL CONNECTIONS.
11. CONTRACTOR SHALL PROVIDE AND INSTALL 2 ADDITIONAL NEW FLOW TRANSMITTERS – ONE FOR COMBINED GERONIMO / HUNT FLOW INDICATION, AND A SECOND FOR HUNT SYSTEM FLOW INDICATION. WIRING FROM NEW POWER PANEL 24A12 TO TRANSMITTERS SHALL BE INCLUDED.

EXISTING WELL ELECTRICAL EQUIPMENT MODIFICATIONS – EXISTING PUMPS LOCATIONS HUNT A, HUNT HSX-1, GERONIMO GSX-3 AND GSX-4 WILL BE UPGRADED. THESE UPGRADES INCLUDE ADDITION OF NEW STARTER PANELS, LEVEL CONTROLS, FLOW TRANSMITTERS, AND PRESSURE SWITCHES. AS A RESULT, THE FOLLOWING MODIFICATIONS ARE NEEDED AT EACH OF THE 4 EXISTING SITES:

12. EXISTING WARRICK LEVEL SENSORS AND ASSOCIATED CONTROL EQUIPMENT SHALL BE DEMOLISHED, AND ITS ASSOCIATED WIRING.
13. CONTRACTOR SHALL PROVIDE AND INSTALL NEW E+H LEVEL TRANSMITTERS AND PROVIDE WIRING FROM TRANSMITTERS TO THEIR LEVEL DISPLAYS AND MOORE LEVEL RELAY CONTROLLERS.
14. CONTRACTOR SHALL PROVIDE AND INSTALL NEW ROSEMOUNT FLOW TRANSMITTERS AND PROVIDE POWER WIRING FROM STARTER PANEL BREAKERS TO TRANSMITTERS.
15. CONTRACTOR SHALL PROVIDE AND INSTALL THE PRESSURE SWITCHES, PROVIDE POWER WIRING FROM STARTER PANEL BREAKERS TO SWITCHES, AND CONTROL WIRING FROM HIGH PRESSURE SWITCH CONTACT TO ITS RESPECTIVE STARTER.
16. CONTRACTOR TO PROVIDE FOUR (4) NEW PUMP MOTOR STARTER PANELS TO FEED THE EXISTING PUMP MOTORS PER THE PROJECT B-44450 DRAWINGS, (SAME AS FOR NEW PUMPS EXCEPT WITH OVERLOAD RELAY).
17. EACH EXISTING PUMP STARTER PANEL FEEDS A GRUNDFOS CAPACITOR START PANEL WHICH IS REQUIRED FOR EACH EXISTING PUMP (NOT REQUIRED FOR THE FIVE NEW PUMPS). THE WIRING BETWEEN THE GRUNDFOS PANELS AND THE EXISTING STARTERS IS NOT DEFINED ON EXISTING APS SCHEMATICS OR ON THE NEW SCHEMATICS ATTACHED TO THIS RFP. THE CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING THE EXISTING INTERWIRING BETWEEN BOTH AND DUPLICATING ITS FUNCTIONALITY WITHIN THE NEW STARTER PANELS. SCHEMATICS SHALL BE REDLINED TO PROVIDE AN ASBUILT RECORD OF THE FUNCTIONING INSTALLATION WHEN COMPLETED. THE EXISTING STARTER AND GRUNDFOS SUPPORTS WILL NEED TO BE MODIFIED TO MOUNT BOTH.

THE CONTRACTOR SHALL PERFORM AND PROVIDE THE ABOVE SCOPE AND PER THE ATTACHED PROJECT DRAWINGS. IF DIFFERENCES EXIST, THE CONTRACTOR SHALL CONTACT APS OR APS'S REPRESENTATIVE FOR CLARIFICATION.

ALL WORK SHALL MEET ALL NEC AND OSHA REQUIREMENTS.

CONTRACTOR SHALL PROVIDE A REDLINED COPY OF ALL ELECTRICAL DRAWINGS TO APS OR THEIR REPRESENTATIVE AT COMPLETION OF EQUIPMENT START-UP.

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER



THIS SHEET WAS
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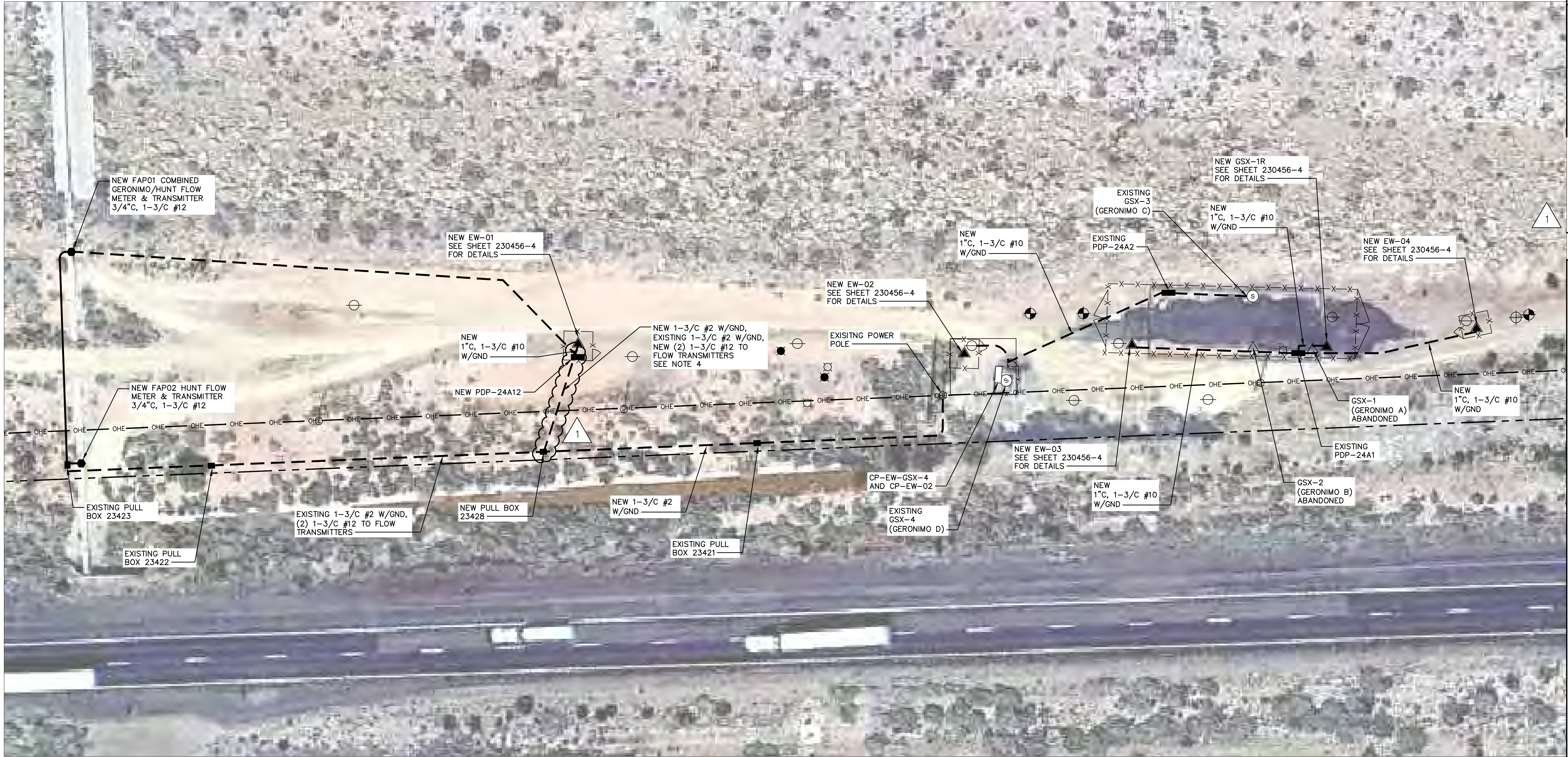
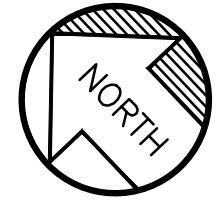
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0b	05/22	ISSUE FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03/22	ISSUE FOR BID	RSB	BR		JJ	MH	CHC08903
NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.

CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
ELECTRICAL SCOPE OF WORK



SCALE: NTS DATE: 03-31-23

DWN	RSB	EXD	APPROVED			W A
CHD	BR	RWVD	MAREN HENLEY DRAWING APPROVED BY			CHC08903
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	41	BP	AP	230456	1



DRAWING REFERENCES	
1.	SEE THE FOLLOWING SHEETS FOR ELECTRICAL INFORMATION ON: G-111159 SH 1 OF 4 GERONIMO INSTALLATION DETAILS G-111159 SH 4 OF 4 HUNT INSTALLATION DETAILS

- GENERAL CONSTRUCTION NOTES:**
- CONTRACTOR TO VERIFY ALL CONDUIT ROUTING FOR CLEARANCE AND OBSTRUCTIONS WITH MECHANICAL AND PIPING CONTRACTORS.
 - CONTRACTOR TO VERIFY STUB-UP LOCATIONS WITH CERTIFIED VENDOR DATA WHERE REQUIRED.
 - UNDERGROUND CONDUIT TO BE PVC SCHEDULE 40 WITH RIGID GALVANIZED STEEL ELBOWS AND RISERS UNLESS OTHERWISE SPECIFIED..
 - MINIMUM CONDUIT DEPTH IS 36". UNDERGROUND CONDUIT TO BE 4" IPS PVC PLASTIC DB-120 DIRECT BURIAL, 20' LENGTH WITH COUPLING OR BELL END.
 - ABOVE GRADE CONDUIT TO BE RIGID GALVANIZED STEEL (RGS).
 - CONTRACTOR TO PROVIDE ENGRAVED NAMEPLATES WITH 3/8" LETTERING FOR EACH DISCONNECT SWITCH IDENTIFYING THE SWITCH AS THE DISCONNECT FOR THE WELL PUMP CONTROL PANEL.
 - POWER FEED FOR PDP24A12 1-3/C #2 SPLICED IN EXISTING JUNCTION BOX 23428. SEE DWG. 230456 SHT 3.

LEGEND:

	DISTRIBUTION PANEL
	CONTROL PANEL
	PULL BOX
	POWERPOLE
	INSTALLED EXTRACTION WELL - TO BE EQUIPPED
	EXISTING EXTRACTION WELL - ABANDONED
	EXISTING MONITORING WELL
	EXISTING PIEZOMETER
	VWP PIEZOMETER
	EXISTING SUMP LOCATION - UPGRADES PROPOSED
	FIELD INSTRUMENT
	UNDERGROUND CONDUIT (LOCATION APPROXIMATE)
	ABOVE GRADE CONDUIT
	OVERHEAD ELECTRIC LINE
	LEASE BOUNDARY

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
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PLAN VIEW
SCALE: NONE



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CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
GERONIMO ELECTRICAL PLAN

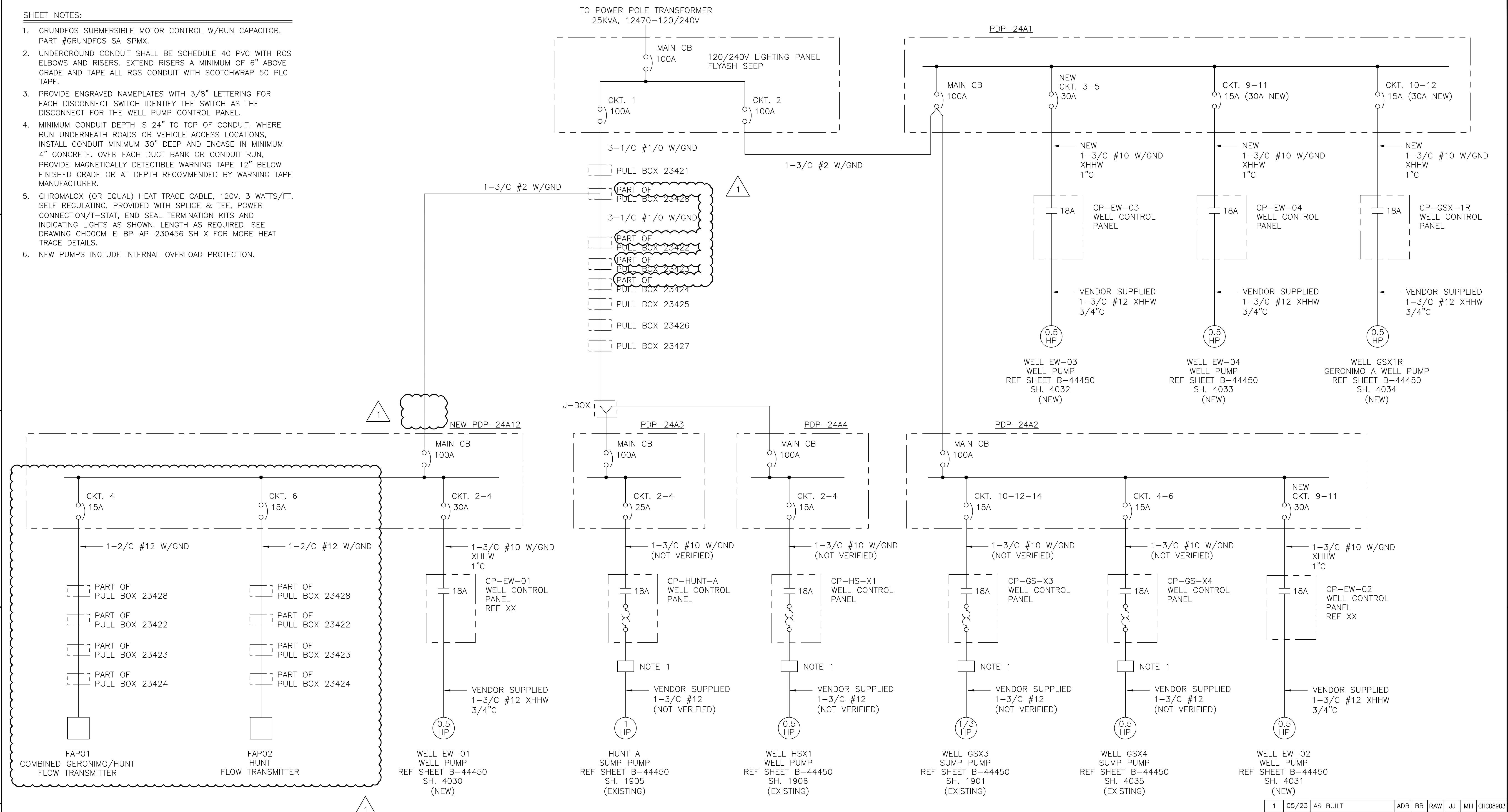


SCALE: NONE DATE: 03-31-2023

DWN	RSB	EXD	APPROVED	W.A.		
CHD	BR	RWVD	MAREN HENLEY DRAWING APPROVED BY	CHC08903		
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	80	BP	AP	230456	2

SHEET NOTES:

- GRUNDFOS SUBMERSIBLE MOTOR CONTROL W/RUN CAPACITOR. PART #GRUNDFOS SA-SPMX.
- UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC WITH RGS ELBOWS AND RISERS. EXTEND RISERS A MINIMUM OF 6" ABOVE GRADE AND TAPE ALL RGS CONDUIT WITH SCOTCHWRAP 50 PLC TAPE.
- PROVIDE ENGRAVED NAMEPLATES WITH 3/8" LETTERING FOR EACH DISCONNECT SWITCH IDENTIFY THE SWITCH AS THE DISCONNECT FOR THE WELL PUMP CONTROL PANEL.
- MINIMUM CONDUIT DEPTH IS 24" TO TOP OF CONDUIT. WHERE RUN UNDERNEATH ROADS OR VEHICLE ACCESS LOCATIONS, INSTALL CONDUIT MINIMUM 30" DEEP AND ENCASE IN MINIMUM 4" CONCRETE. OVER EACH DUCT BANK OR CONDUIT RUN, PROVIDE MAGNETICALLY DETECTIBLE WARNING TAPE 12" BELOW FINISHED GRADE OR AT DEPTH RECOMMENDED BY WARNING TAPE MANUFACTURER.
- CHROMALOX (OR EQUAL) HEAT TRACE CABLE, 120V, 3 WATTS/FT, SELF REGULATING, PROVIDED WITH SPLICE & TEE, POWER CONNECTION/T-STAT, END SEAL TERMINATION KITS AND INDICATING LIGHTS AS SHOWN. LENGTH AS REQUIRED. SEE DRAWING CH00CM-E-BP-AP-230456 SH X FOR MORE HEAT TRACE DETAILS.
- NEW PUMPS INCLUDE INTERNAL OVERLOAD PROTECTION.



1	05/23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05/22	ISSUE FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
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CHOLLA GENERATING STATION
FAP SEEPAGE SYS EXTRACTION WELLS PUMP INSTALLATION
ONE LINE DIAGRAM



SCALE: NTS DATE: 03-31-23

DWN	RSB	EXD	APPROVED	W A
CHD	BR	RWVD	MAREN HENLEY	CHC08903
		JJ	DRAWING APPROVED BY	

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	01	BP	AP	230456	3

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

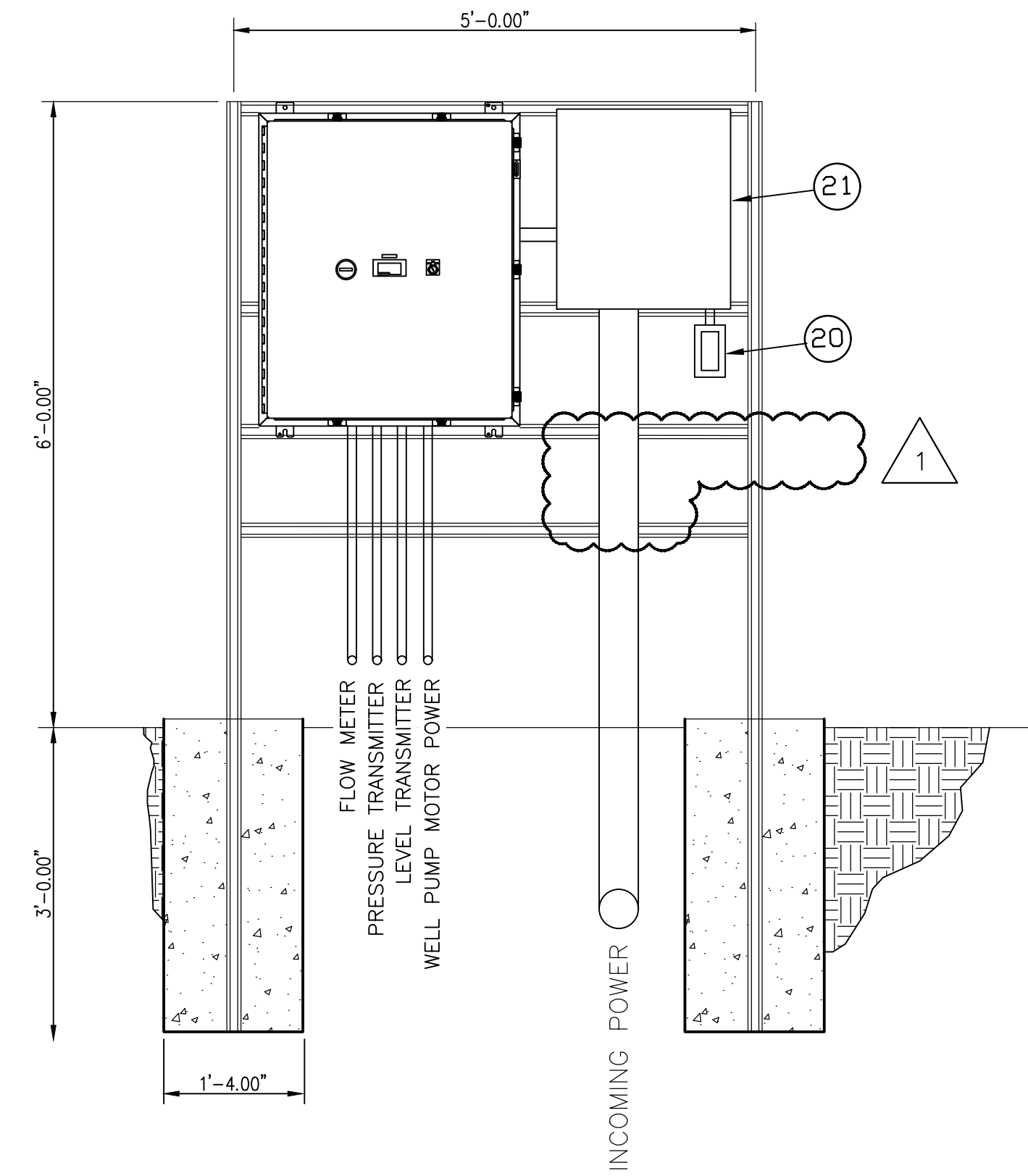
801-793-8036
TELEPHONE NUMBER



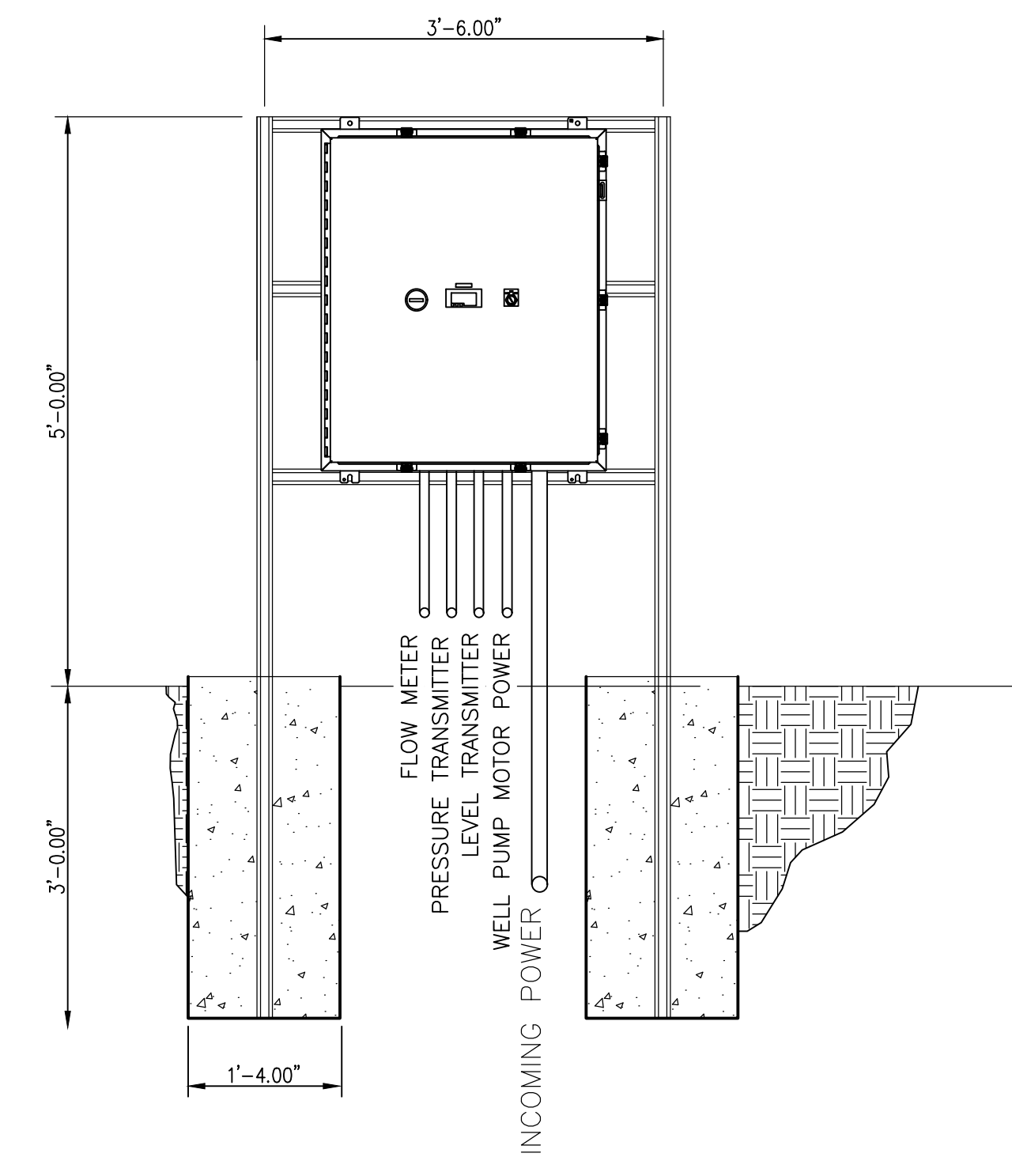
THIS SHEET WAS
ORIGINALLY
SEALED BY
JEFFREY
JORGENSEN ON
05-12-2022

WORK SAFELY TODAY

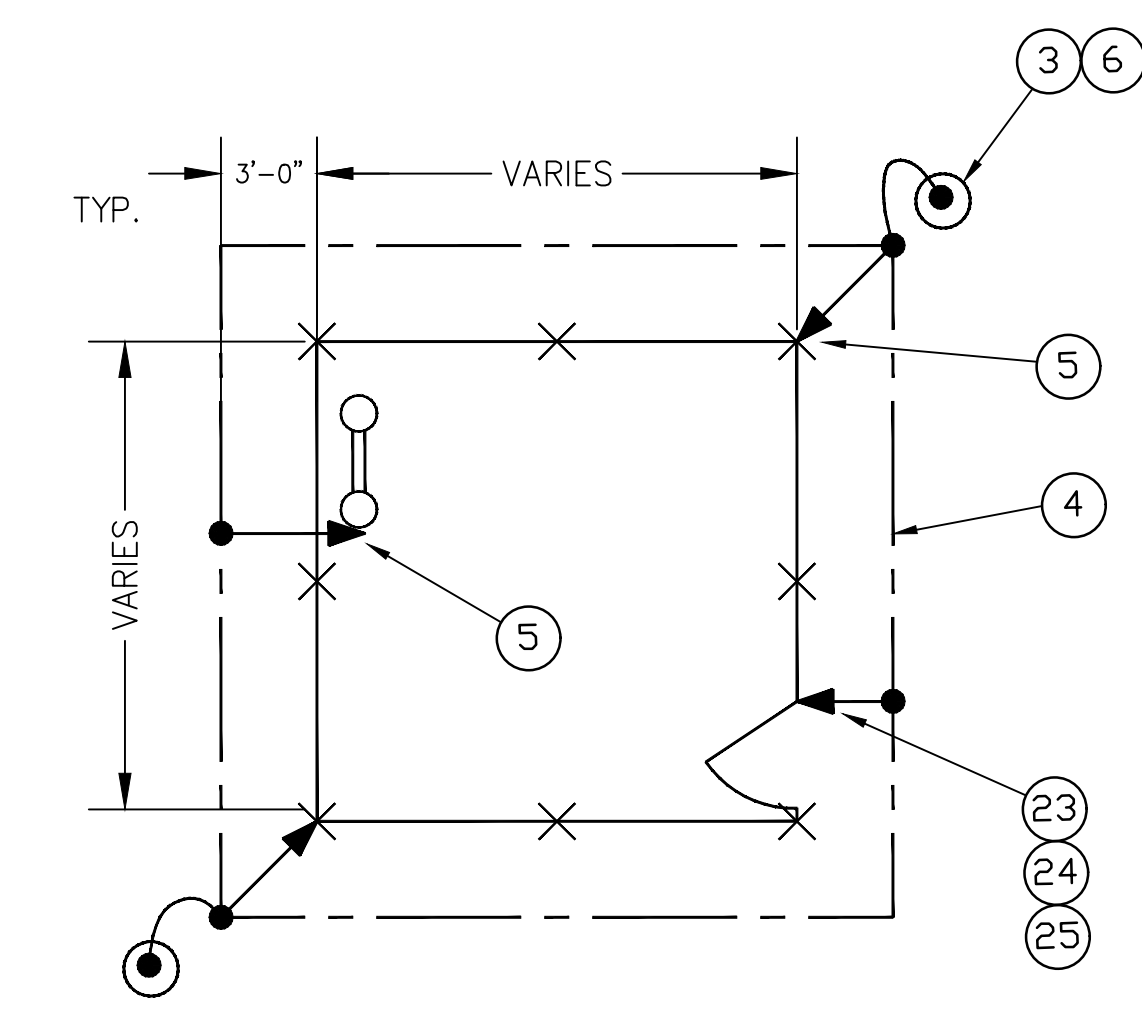
THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORPORATION.



WELL CONTROL PANEL AND LIGHTING PANEL FOR EW-01

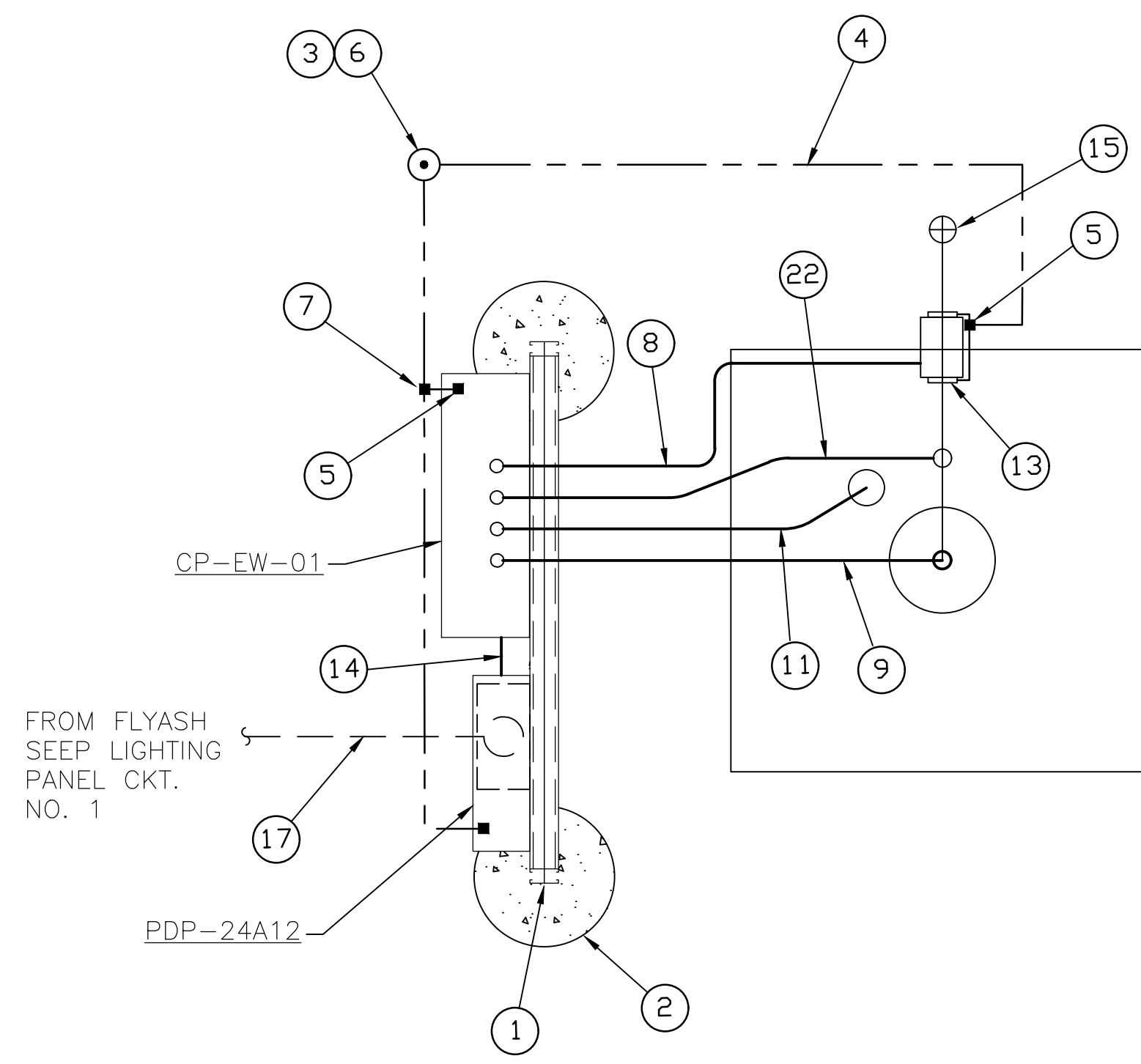


WELL CONTROL PANEL & DISCONNECT SWITCH TYPICAL FOR EW-02, EW-03, EW-04 & GSX1R



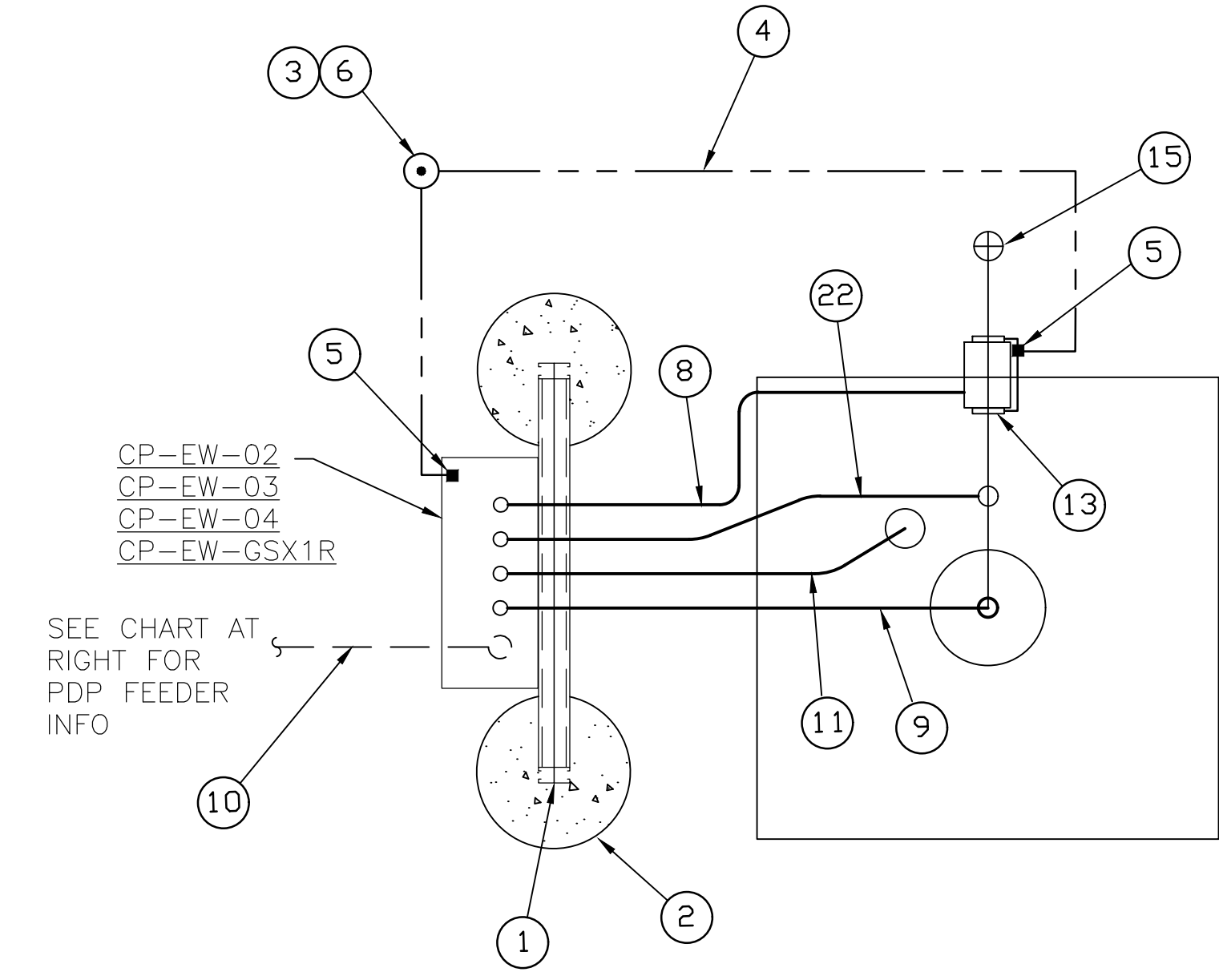
CHAIN LINK FENCE GROUNDING

- KEY NOTES:**
1. GALVANIZED BACK TO BACK P1001 UNISTRUT.
 2. 36" LONG BY 16" DIAMETER SONOTUBE. CENTER UNISTRUT WITHIN TUBE AND FILL TO 2" ABOVE GRADE WITH 4000 PSI CONCRETE. SLOPE TOP CONCRETE SURFACE TO FACILITATE WATER RUN OFF.
 3. 3/4" X 10' LONG COPPER CLAD STEEL GROUND ROD.
 4. #2 BARE COPPER GROUND WIRE.
 5. BOLTED GROUNDING CONNECTOR.
 6. CADWELD GROUNDING CONNECTION.
 7. CADWELD CABLE TO CABLE GROUND CONNECTION.
 8. 3/4" RIGID STEEL CONDUIT FOR FLOW METER.
 9. 3/4" RIGID STEEL CONDUIT FOR PUMP MOTOR POWER. CABLE PROVIDED BY MANUFACTURER.
 10. 1 1/2" RIGID STEEL CONDUIT FOR DISCONNECT POWER.
 11. 3/4" RIGID STEEL CONDUIT FOR LEVEL TRANSMITTER.
 12. NOT USED.
 13. CONTRACTOR TO INSTALL FLOW METER GROUNDING RINGS ON BOTH SIDES OF THE FLOW METER. GROUND ACCORDINGLY.
 14. 1" RIGID STEEL CONDUIT FOR CONTROL PANEL POWER.
 15. PIPING TO COMMON HEADER.
 16. ALL EXPOSED PIPING SHALL HAVE HEAT TRACE.
 17. 4" IPS, PVC PLASTIC DB-120 DIRECT BURIAL 20' LENGTH WITH COUPLING OR BELL END.
 18. NOT USED
 19. NOT USED
 20. RECEPTACLE, WEATHER PROOF, DUPLEX, 15 AMPS, 120V, GFCI.
 21. PANEL BOARD, 1 PHASE, 3 WIRE, 120/240VAC, CUTLER-HAMMER #E2T2036S, W/1-100A 2 POLE MAIN BREAKER, 1-30A 2 POLE BKR, 1-20A 1 POLE BKR, 3-15A 1 POLE BKRS.
 22. 3/4" RIGID STEEL CONDUIT FOR PRESSURE TRANSMITTER.
 23. CONNECTOR, GROUND, BRONZE, BOLTED, 1-1/2" SPS (1-7/8" OD) PIPE TO FLEXIBLE COPPER BRAID.
 24. CONNECTOR, GROUND, BRONZE, BOLTED, 2-1/2" SPS (2-7/8" OD) PIPE TO FLEXIBLE COPPER BRAID.
 25. BRAID, COPPER, TINNED, ROLLED (FLAT), 1-1/2" WIDE.



POWER AND GROUNDING DIAGRAM FOR EW-01

NOTE:
SITE LAYOUT AND CONDUIT ROUTING ARE DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY LAYOUT AND MAKE ADJUSTMENTS AS NECESSARY.



POWER AND GROUNDING DIAGRAM TYPICAL FOR EW-02, EW-03, EW-04 & GSX1R

NOTE:
SITE LAYOUT AND CONDUIT ROUTING ARE DIAGRAMMATIC. CONTRACTOR TO FIELD VERIFY LAYOUT AND MAKE ADJUSTMENTS AS NECESSARY.

WELL NO.	CONTROL PANEL	FED FROM PANEL & CKT
EW-02	CP-EW-02	PDP-24A2 CKT 9-11
EW-03	CP-EW-03	PDP-24A1 CKT 3-5
EW-04	CP-EW-04	PDP-24A1 CKT 9-11
GSX1R	CP-EW-GSX1R	PDP-24A1 CKT 10-12

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

NO.	DATE	REVISION	DWN	CHD	EXD	RWVD	APVD	W.A.
1	05/23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05/22	ISSUE FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03/22	ISSUE FOR BID	RSB	BR		JJ	MH	CHC08903

CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
WELL POWER AND GROUNDING PLANS
WELLS EW-01,02, 03, 04 & GSX1R



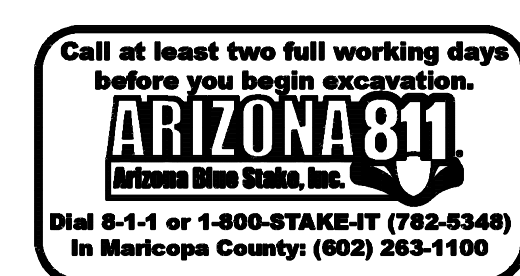
SCALE: NTS DATE: 03-31-22

DWN	RSB	EXD	APPROVED	W.A.
CHD	BR	RWVD	MAREN HENLEY DRAWING APPROVED BY	CHC08903

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	61	BP	AP	230456	4

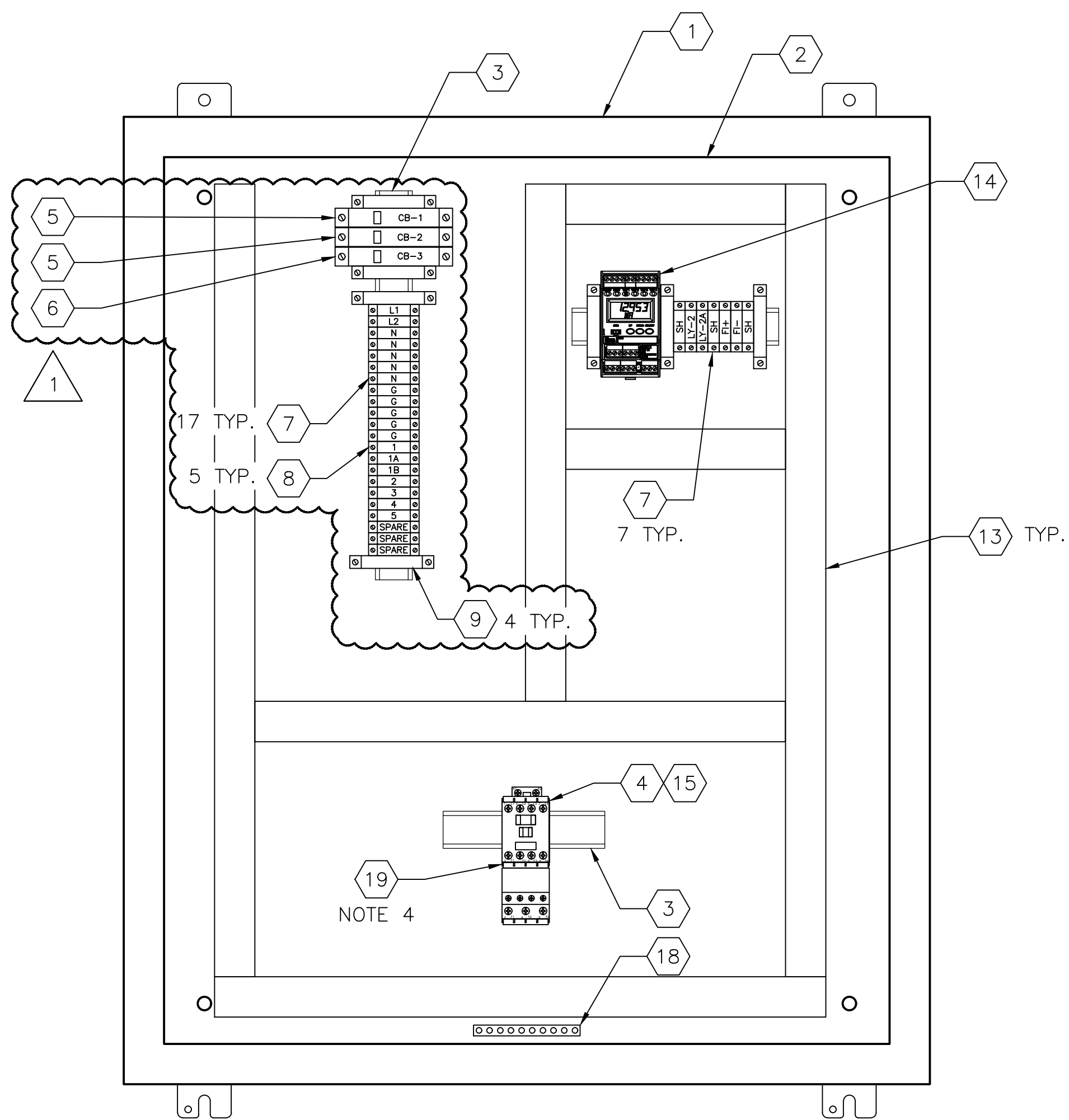


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ORIGINALLY
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JEFFREY
JORGENSEN ON
05-12-2022

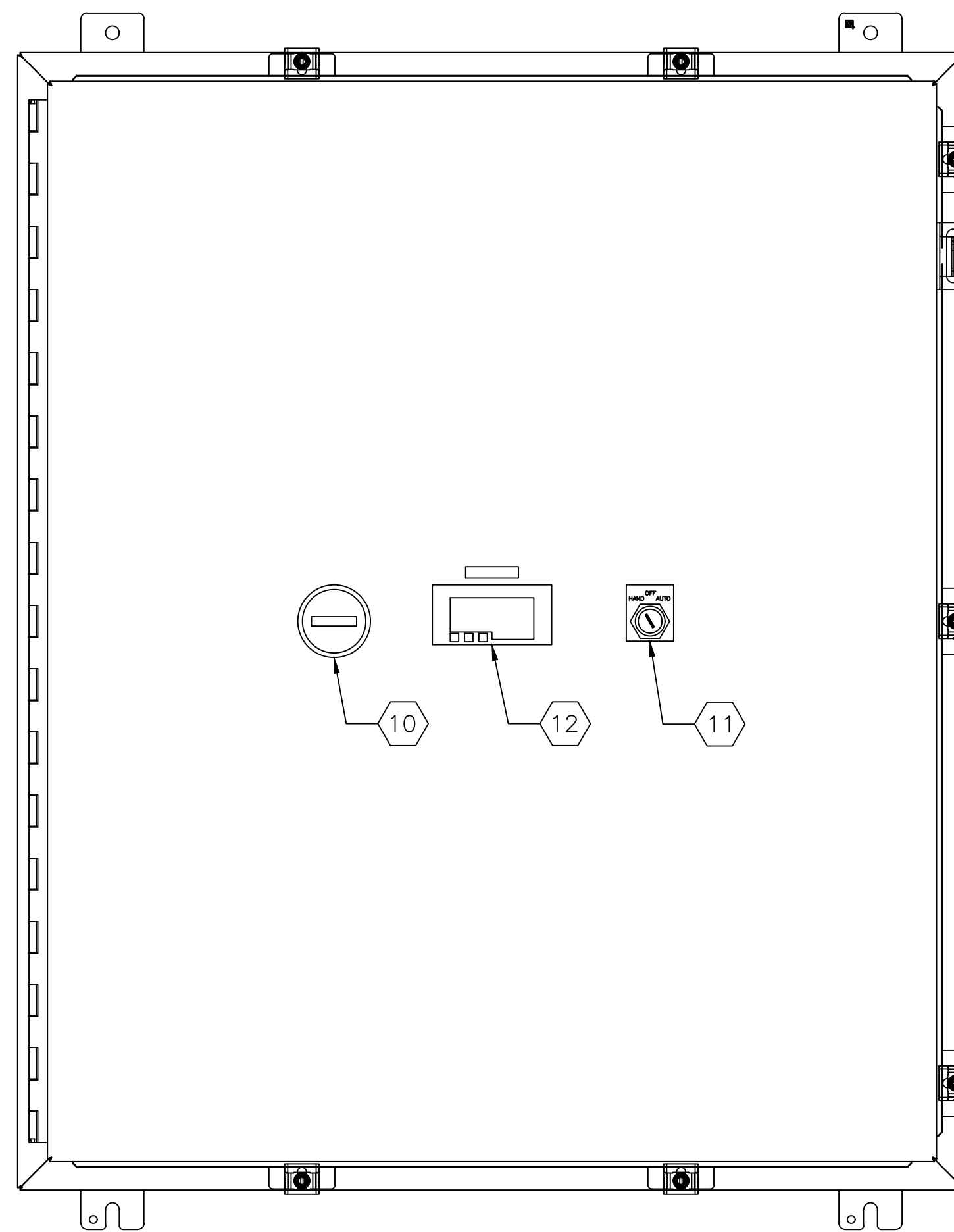


WORK SAFELY TODAY

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BACK PANEL LAYOUT



FRONT COVER LAYOUT

BILL OF MATERIAL

ITEM #	QTY	TAG NO'S	MFG	MODEL NO.	DESCRIPTION
1	1 EACH	SEE TAG MATRIX	HOFFMAN	A36H30CLP	ENCLOSURE, 36" H X 30" W X 10" DEEP, MILD STEEL, NEMA 4, HINGED WALL MOUNT WITH FAST-OPERATING CLAMPS
2	1 EACH	N/A	HOFFMAN	A36P30	SUBPANEL, 27" H X 33" WIDE, MILD STEEL, PAINTED WHITE
3	AS REQ'D	N/A	VARIOUS	VARIOUS	DIN RAIL, STEEL, SLOTTED BASE, STANDARD HEIGHT
4	1 EACH	SEE TAG MATRIX	ALLEN BRADLEY	100-C23D10	100-C IEC CONTACTOR, SCREW TERMINALS, LINE SIDE, 23A, 1 NO AND 0 NC, AUXILIARY CONTACT CONFIGURATION, SINGLE PACK
5	2 EACH	CB-1, CB-2	ALLEN BRADLEY	1492-SPM1C020	CIRCUIT BREAKER, SUPPLEMENTAL, 2A, 1-POLE, 125VAC, DIN RAIL MOUNT.
6	1 EACH	CB-3	ALLEN BRADLEY	1492-SPM1C050	CIRCUIT BREAKER, SUPPLEMENTAL, 5A, 1-POLE, 125VAC, DIN RAIL MOUNT.
7	24 EACH	N/A	PHOENIX CONTACT	UT 6 3044131	TERMINAL BLOCKS, FEED-THROUGH STYLE, 8 MM WIDTH, DIN RAIL MOUNT, GREY COLOR, LABELED "N"
8	5 EACH	N/A	PHOENIX CONTACT	UT 6-PE 3044157	TERMINAL BLOCKS, GROUNDING STYLE, 8 MM WIDTH, DIN RAIL MOUNT, GREEN/YELLOW COLOR
9	7 EACH	N/A	PHOENIX CONTACT	CLIPFIX 35 3022218	TERMINAL BLOCK END CLAMP, HEAVY DUTY
10	1 EACH	ETM	ENM	T18BG52BC	ELAPSED TIME METER, ROUND BEZEL, 2.3", 120V
11	1 EACH	HOA	ALLEN BRADLEY	800H-JR2A	SELECTOR SWITCH, 3 POSITION, WITH 800H-W551 HOA NAMEPLATE
12	1 EACH	LI-*	E+H	RIA15-AAA3	ANALOG LEVEL INDICATOR AND DISPLAY, 4-20mA WITH NAMEPLATE
13	AS REQ'D	N/A	VARIOUS	VARIOUS	WIRING DUCT, COMB STYLE WITH COVER, WHITE, 1.5" WIDE BY 4" TALL
14	1 EACH	LY-*	MOORE INDUSTRIES	SPA2/HLPRG/2PRG/U/-DPDT/DIN	CURRENT ALARM RELAY, 4-20MADC IN, DUAL RELAY OUTPUT, RELAYS CONFIGURED FOR HIGH ALARM, WITH +24 XMTR PWR
15	1 EACH		ALLEN BRADLEY	100-FA22	AUXILLARY CONTACT, 2 NO AND 2 NC, FRONT MOUNTING, SCREW TERMINALS
16					
17					
18	1 EACH		SIEMENS	ECGB10	10 PT GROUND BAR KIT
19	1 EACH	OLR	ALLEN BRADLEY	193-1EFDB	IEC OVERLOAD RELAY, ELECTRONIC, SELECTABLE TRIP CLASS 10-20-15-30, SELECTABLE MANUAL OR AUTO-MANUAL RESET, 3.2-16.0A, 1 NO AND 1 NC

TAG NUMBER MATRIX

WELL NO.	PANEL TAG NO. ITEM NO. 1
EW-01	CP-EW-01
EW-02	CP-EW-02
EW-03	CP-EW-03
EW-04	CP-EW-04
GSX1R	CP-GSX1R
GSX3	CP-GSX3
GSX4	CP-GSX4
HSX1	CP-HSX1
HUNT A	CP-HUNT A

SHEET NOTES:

1. THE BILL OF MATERIAL IS TYPICAL FOR EACH PUMP CONTROL PANEL FOR WELLS EW-01, EW-02, EW-03, EW-04, GSX1R, HUNT A, HUNT HSX1, GSX3 & GSX4.
2. WITH OWNER'S AND ENGINEER'S PERMISSION OTHER FUNCTIONALLY EQUIVALENT MANUFACTURER'S PRODUCTS MAY BE USED
3. PROVIDE NAMEPLATES ENGRAVED WITH THE CONTROL PANEL TAG NUMBER. ATTACH TO PANEL FRONT WITH STAINLESS STEEL SCREWS
4. OVERLOAD RELAY ONLY REQUIRED FOR EXISTING PUMPS: HUNT A, HUNT HSX1, GSX3 & GSX4.
5. PANELS MUST BE BUILT TO UL508 STANDARDS.

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER



THIS SHEET WAS ORIGINALLY SEALED BY JEFFREY JORGENSEN ON 05-12-2022

WORK SAFELY TODAY

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NO.	DATE	REVISION	DWN	CHD	EXD	RWD	APVD	W.A.
1	05/23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05/22	ISSUE FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03/22	ISSUE FOR BID	RSB	BR		JJ	MH	CHC08903

CHOLLA SES COMMON
FA POND SEEPAGE INTERCEPT SYS
WELL CONTROL PANEL AND B.O.M.
WELLS EW-01, EW-02, EW-03, EW-04 & GSX1R



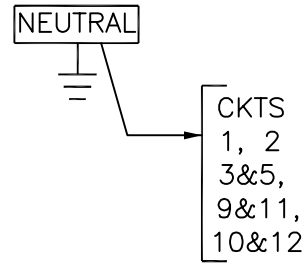
SCALE_NTS DATE_03-31-23

DWN	CHD	EXD	RWD	APVD	W.A.
RSB	BR	RAW	JJ	MH	CHC08903
CHD	BR	RWD	JJ	MH	CHC08903

UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	24	BP	AP	230456	5

REV.	SERVICE	REF. DWG.	CABLE		BKR.	CKT. NO.	MAIN BUS	CKT. NO.	BKR.	CABLE		REF. DWG.	SERVICE	REV.
			NO.	SIZE						SIZE	NO.			
2	FREEZE PROT FOR PUMP EW-04	B44450 SH.4033		12	20 1	1	●	2	20 1	12		B44450 SH.4034	FREEZE PROT FOR PUMP GSX1R	2
2	GERONIMO SEEP PUMP EW-03	B44450 SH.4032		10	20 2	3	●	4	20 1	12			RECEPTACLES	2
						5	●	6						
2	SPARE				20 1	7	●	8	20 1	12		B44450 SH.4032	FREEZE PROT FOR PUMP EW-03	2
2	GERONIMO SEEP PUMP EW-04	B44450 SH.4033		10	15 2	9	●	10	15 2	10		B44450 SH.4034	GERONIMO SEEP PUMP GSX1R	2
						11	●	12						
						13	●	14						
						15	●	16						

NAMEPLATE: PDP-24A1
SERVICE: 120/240V, 1Ø, 3W
MAIN BUS RATING: 100A
MAIN LUG SIZE: N/A
MAIN BREAKER RATING: 100A
ENCLOSURE TYPE (NEMA): 3R
MOUNTING: SURFACE
LOCATION: FLY ASH POND
SUPPLY: XX
XX
XX
MANUF: SQUARE "D"
BREAKER TYPE: QO



AS-BUILT CERTIFICATION

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ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

AAAAAFOJ.DWG

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
2	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
1b	05-06-22	REMOVE GSX-1, GSX-2; ADD EW-03, GSX-1R - IFC	RSB	BR		JJ	MH	CHC08903
1a	03-18-22	REMOVE GSX-1, GSX-2; ADD EW-03, GSX-1R - IFB	RSB	BR		JJ	MH	CHC08903
1	03-24-94	AS-BUILT, GENERAL REVISION	BLF	RJM			TLM	62-9072

**CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
GERONIMO SEEP SUMP PUMP
120/240V DIST PANEL PDP-24A1**

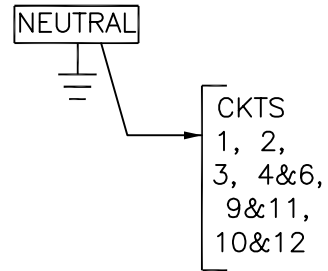
ARIZONA PUBLIC SERVICE COMPANY

SCALE NONE DATE 3-26-93

DWN GRP	APVD	GL FAUL	DRAWING NO.
CHD	ENGINEERING SUPERVISOR		B-44308
EXD RJM	RVWD	W A	
	CHET	62-9072	SHEET 240

REV.	SERVICE	REF. DWG.	CABLE		BKR.	CKT. NO.	MAIN BUS	CKT. NO.	BKR.	CABLE		REF. DWG.	SERVICE	REV.
			NO.	SIZE						SIZE	NO.			
2	RECEPTACLE	B44450 SH.4035		12	20 1	1		2	20 1	12		B44450 SH.1901	FREEZE PROT FOR PUMP GSX3	
2	FREEZE PROT FOR PUMP GSX4	B44450 SH.4035		10	20 1	3		4	20 2	10		B44450 SH.4035	GERONIMO SEEP PUMP GSX4	2
2	FREEZE PROT FOR PUMP EW-02	B44450 SH.4031		10	20 1	7		8						
2	GERONIMO SEEP PUMP EW-02	B44450 SH.4031		10	30 2	9		10	20 2	10		B44450 SH.1901	GERONIMO SEEP PUMP GSX3	2
						11		12						
						13		14						
						15		16						

NAMEPLATE: PDP-24A2
 SERVICE: 120/240V, 1Ø, 3W
 MAIN BUS RATING: 100A
 MAIN LUG SIZE: N/A
 MAIN BREAKER RATING: 100A
 ENCLOSURE TYPE (NEMA): 3R
 MOUNTING: SURFACE
 LOCATION: FLY ASH POND
 SUPPLY: XX
 XX
 XX
 MANUF: SQUARE "D"
 BREAKER TYPE: QO



AS-BUILT CERTIFICATION

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TELEPHONE NUMBER

AAAAAFOJ.DWG

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2	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
1b	05-06-22	SHOW GSX-4; ADD EW-02 - IFB	RSB	BR		JJ	MH	CHC08903
1a	03-18-22	SHOW GSX-4; ADD EW-02 - IFB	RSB	BR		JJ	MH	CHC08903
1	03-24-94	AS-BUILT, GENERAL REVISION	BLF	RJM			TLM	62-9072

**CHOLLA SES COMMON
 FA POND SEEP INTERCEPT SYS
 GERONIMO SEEP SUMP PUMPS
 120/240V DIST PANEL PDP-24A2**

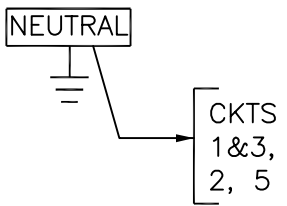
ARIZONA PUBLIC SERVICE COMPANY

SCALE NONE DATE 3-26-93

DWN	GRP	APVD	GL FAUL	DRAWING NO.
CHD		ENGINEERING SUPERVISOR		B-44308
EXD	RJM	RVWD	W A	
		CHET	62-9072	SHEET 241

REV.	SERVICE	REF. DWG.	CABLE		BKR.	CKT. NO.	MAIN BUS	CKT. NO.	BKR.	CABLE		REF. DWG.	SERVICE	REV.
			NO.	SIZE						SIZE	NO.			
	SEEP WELL PUMP EW-01	B44450 SH.4030		10	30	1	+	2	20	1	10	B44450 SH.4030	FREEZE PROT FOR PUMP EW-01	
					2	3	+	4	15	1	12		FAP01 COMBINED GERONIMO/HUNT FLOW TRANSMITTER	
	RECEPTACLE			12	20	5	+	6	15	1	12		FAP02 HUNT FLOW TRANSMITTER	
					1	7	+	8						
						9	+	10						
						11	+	12						

NAMEPLATE: PDP-24A12
 SERVICE: 120/240V, 1Ø, 3W
 MAIN BUS RATING: 100A
 MAIN LUG SIZE: N/A
 MAIN BREAKER RATING: 100A
 ENCLOSURE TYPE (NEMA): 3R
 MOUNTING: SURFACE
 LOCATION: FLY ASH POND
 SUPPLY: XX
 XX
 XX
 MANUF: SQUARE "D"
 BREAKER TYPE: QO



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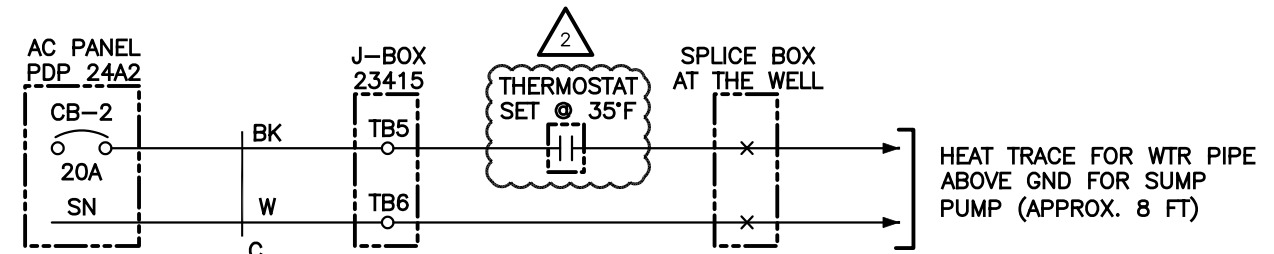
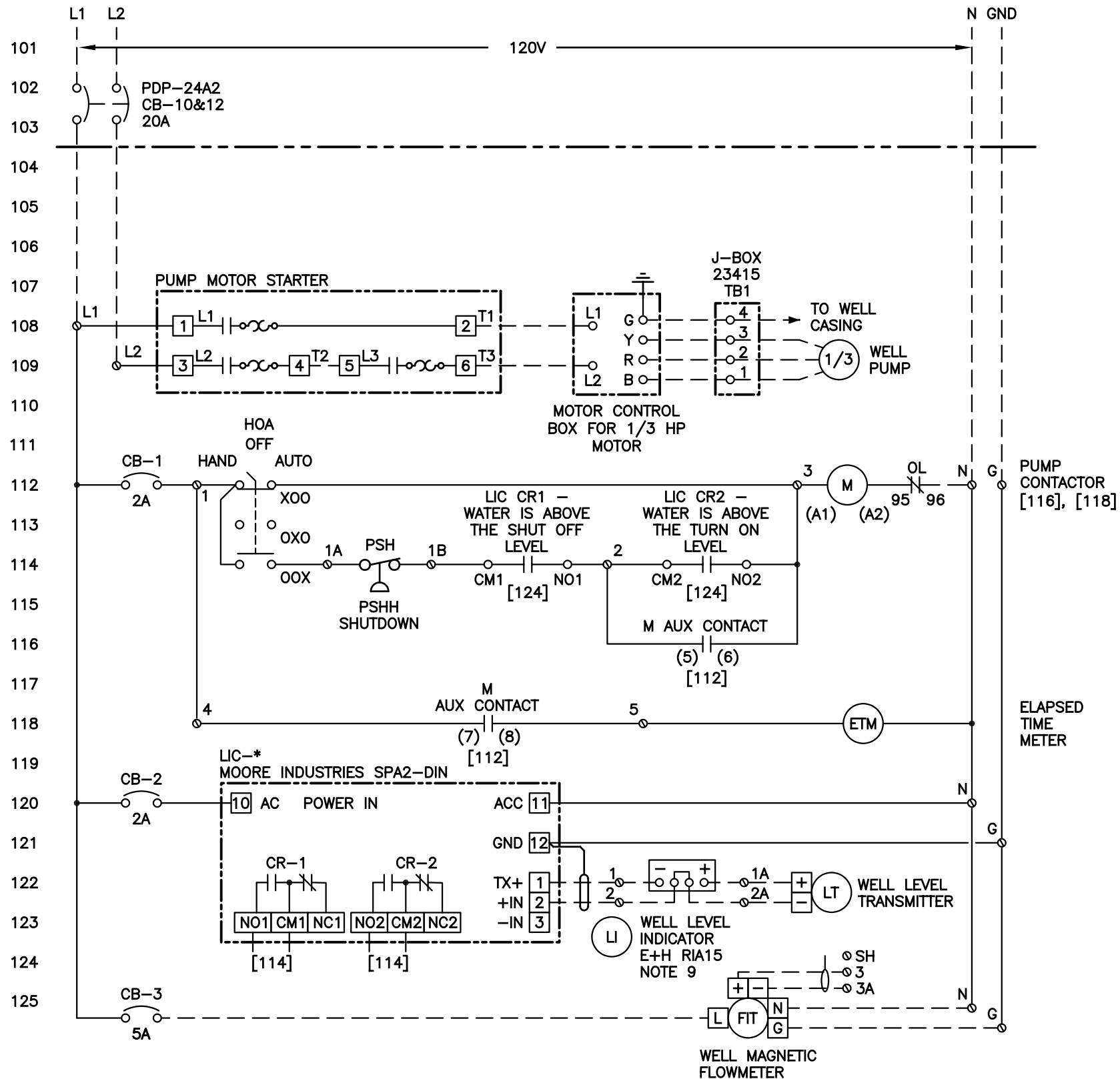
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1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
1b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
1a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

**CHOLLA SES COMMON
 FA POND SEEP INTERCEPT SYS
 GERONIMO SEEP SUMP PUMPS
 120/240V DIST PANEL PDP-24A12**

ARIZONA PUBLIC SERVICE COMPANY		SCALE NONE	DATE 05-06-22
DWN RSB	APVD MAREN HENLEY	DRAWING NO.	
CHD BR	ENGINEERING SUPERVISOR	B-44308	
EXD	RVWD JJ	W A	SHEET 404
	CHC08903		



FREEZE PROTECTION WIRING (EXISTING)

SHEET NOTES:

1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI)
11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

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TELEPHONE NUMBER

WORK SAFELY TODAY

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
2	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
1b	05-06-22	REMOVE GSX-1, GSX-2; MODIFY GSX-3 - IFC	RSB	BR	RAW	JJ	MH	CHC08903
1a	03-18-22	REMOVE GSX-1, GSX-2; MODIFY GSX-3 - IFB	RSB	BR	RAW	JJ	MH	CHC08903
1	3-28-94	AS-BUILT PER PLANT	BLF	RJM			TLM	30-9072

CHOLLA SES COMMON FA POND SEEP INTERCEPT SYS SEEP WELL PUMP GSX3 CONTROL WIRING DIAGRAM

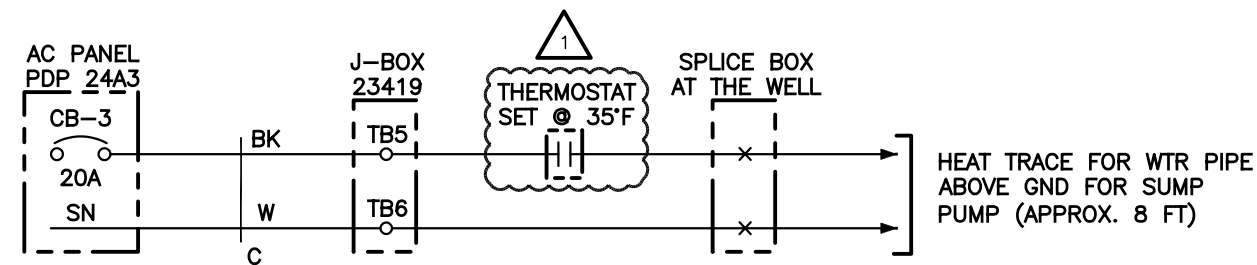
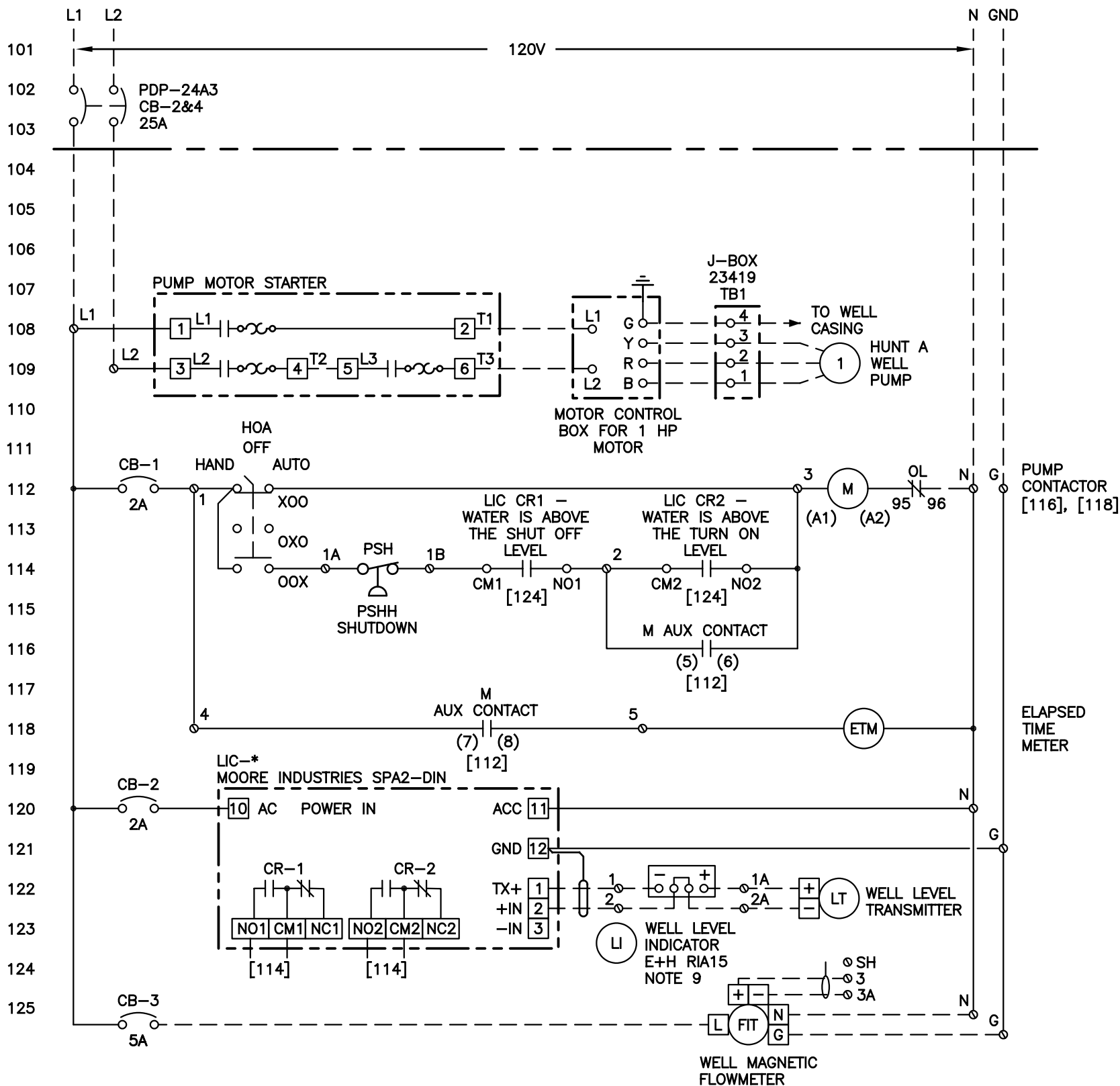
THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.



SCALE NONE DATE 3/23/93

DWN	BLF/GRP	EXD	APPROVED	W A		
CHD	RJM	RVWD	GL FAUL	62-9072		
DRAWING APPROVED BY						
UNIT	DISC	TYPE	SYS	SUBSYS	NUMBER	SHEET
CH00CM	E	03	BP	AP	B44450	1901

DRAWING:



FREEZE PROTECTION WIRING

SHEET NOTES:

1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

AAAAFOI.DWG

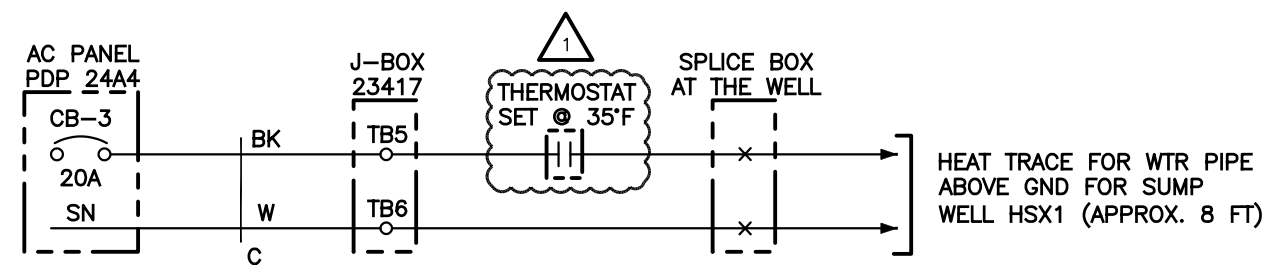
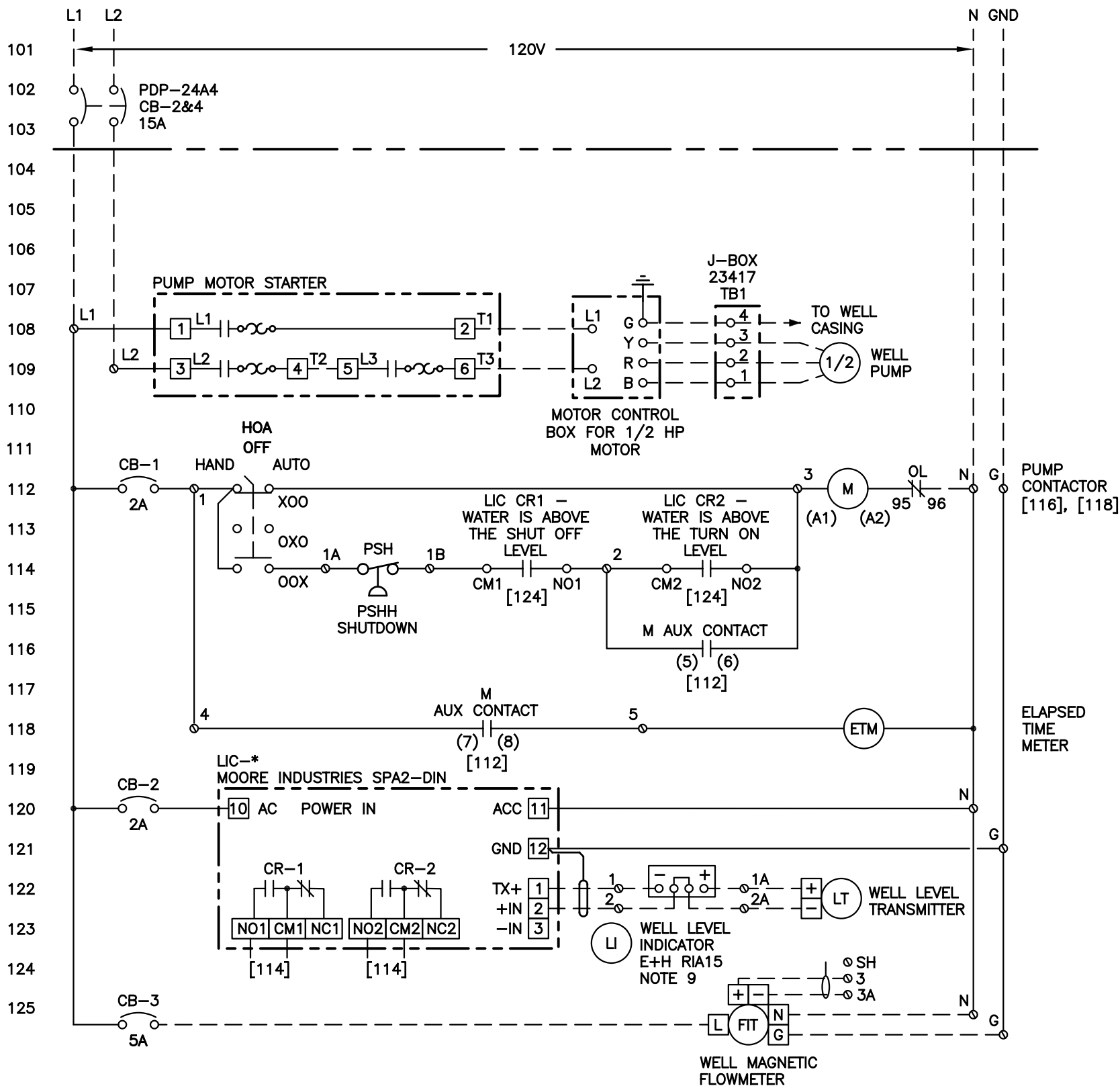
CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
HUNT'S SEEP SUMP PUMP (HUNT A)
CONTROL WIRING DIAGRAM

ARIZONA PUBLIC SERVICE COMPANY

SCALE NONE DATE 9-20-95

DWN	MEM	APVD	DRAWING NO.
CHD	ENGINEERING SUPERVISOR		B-44450
EXD	RVWD	W A	
			30-9147
			SHEET 1905

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	MODIFY HUNT A - IFC	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	MODIFY HUNT A - IFB	RSB	BR		JJ	MH	CHC08903



FREEZE PROTECTION WIRING

SHEET NOTES:

1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

AAAAAFOK.DWG

CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
HUNT'S SEEP WELL PUMP HSX1
CONTROL WIRING DIAGRAM

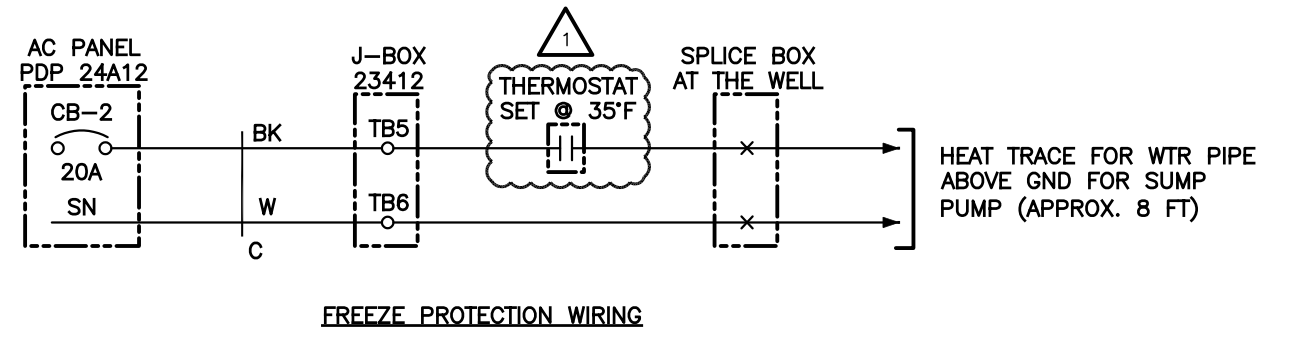
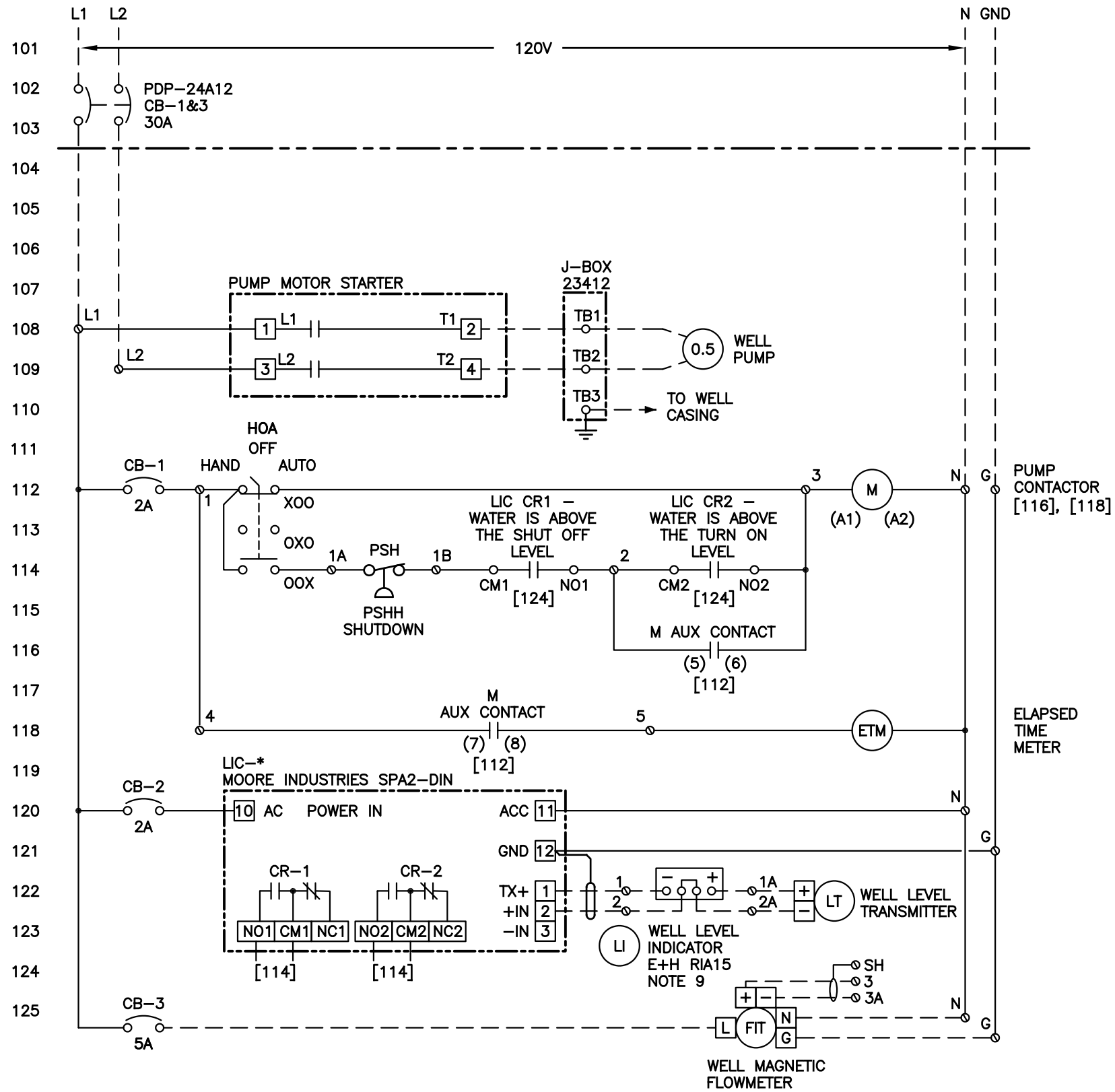
ARIZONA PUBLIC SERVICE COMPANY

SCALE NONE

DATE 9-20-95

DWN	MEM	APVD	DRAWING NO.
CHD	ENGINEERING SUPERVISOR		B-44450
EXD	RVWD	W A	
			SHEET 1906

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	MODIFY HSX-1 - IFC	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	MODIFY HSX-1 - IFB	RSB	BR		JJ	MH	CHC08903



- SHEET NOTES:**
1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
 2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
 3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
 4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
 5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
 6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
 7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
 8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
 9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
 10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
 11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

CHOLLA SES COMMON FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-01 CONTROL WIRING DIAGRAM

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.

SCALE NONE

DWN RSB EXD

CHD BR RVWD JJ

UNIT CH00CM

DATE 05-06-22

APPROVED
MAREN HENLEY
DRAWING APPROVED BY

W A
CHC08903

DISC E

TYPE 03

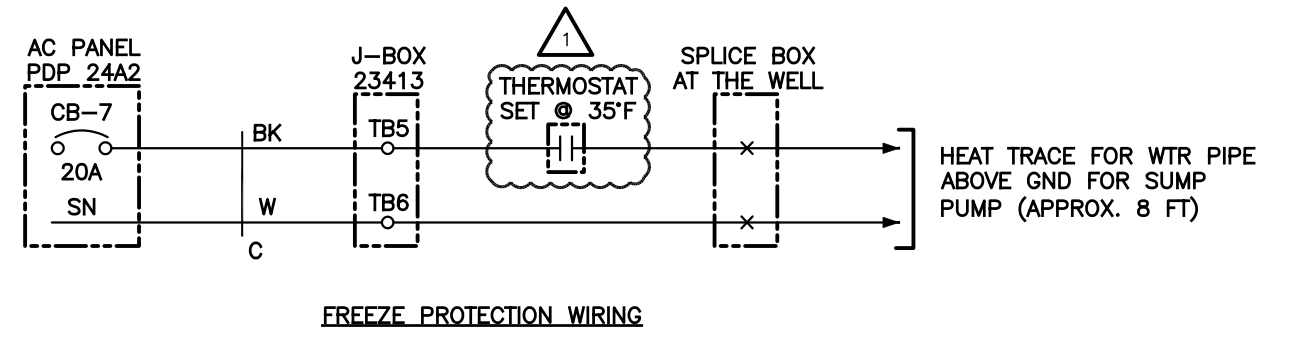
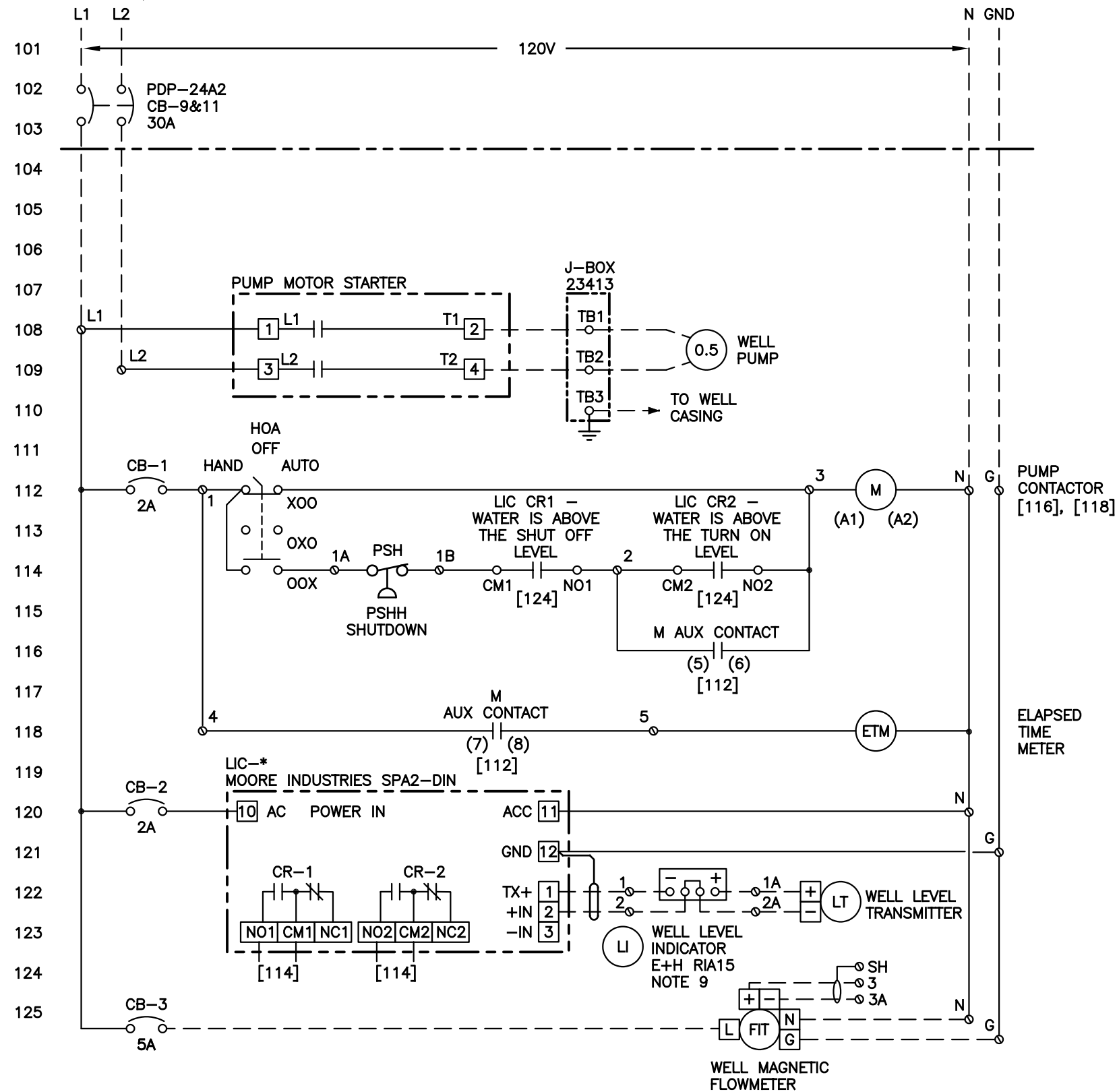
SYS BP

SUBSYS AP

NUMBER B44450

SHEET 4030

DRAWING:



- SHEET NOTES:**
1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
 2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
 3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
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 7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
 8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
 9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
 10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
 11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION
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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
43358
ARIZONA REGISTRATION NUMBER
801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

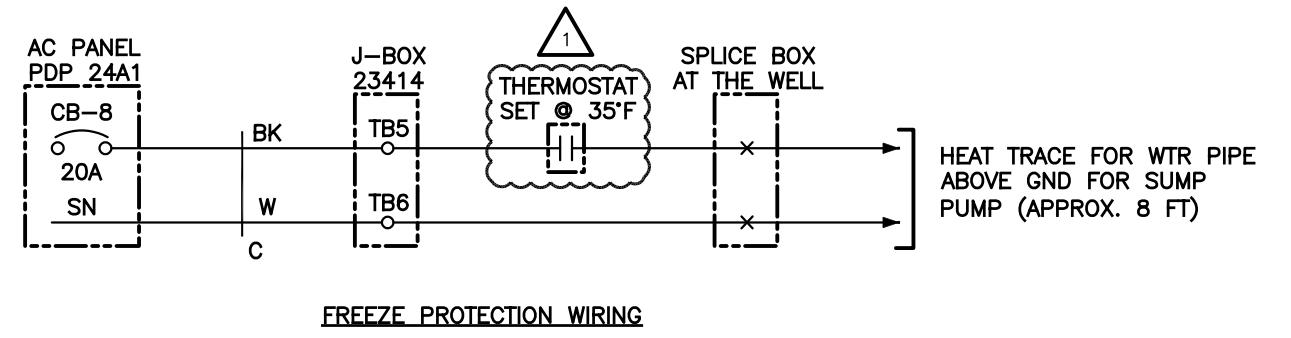
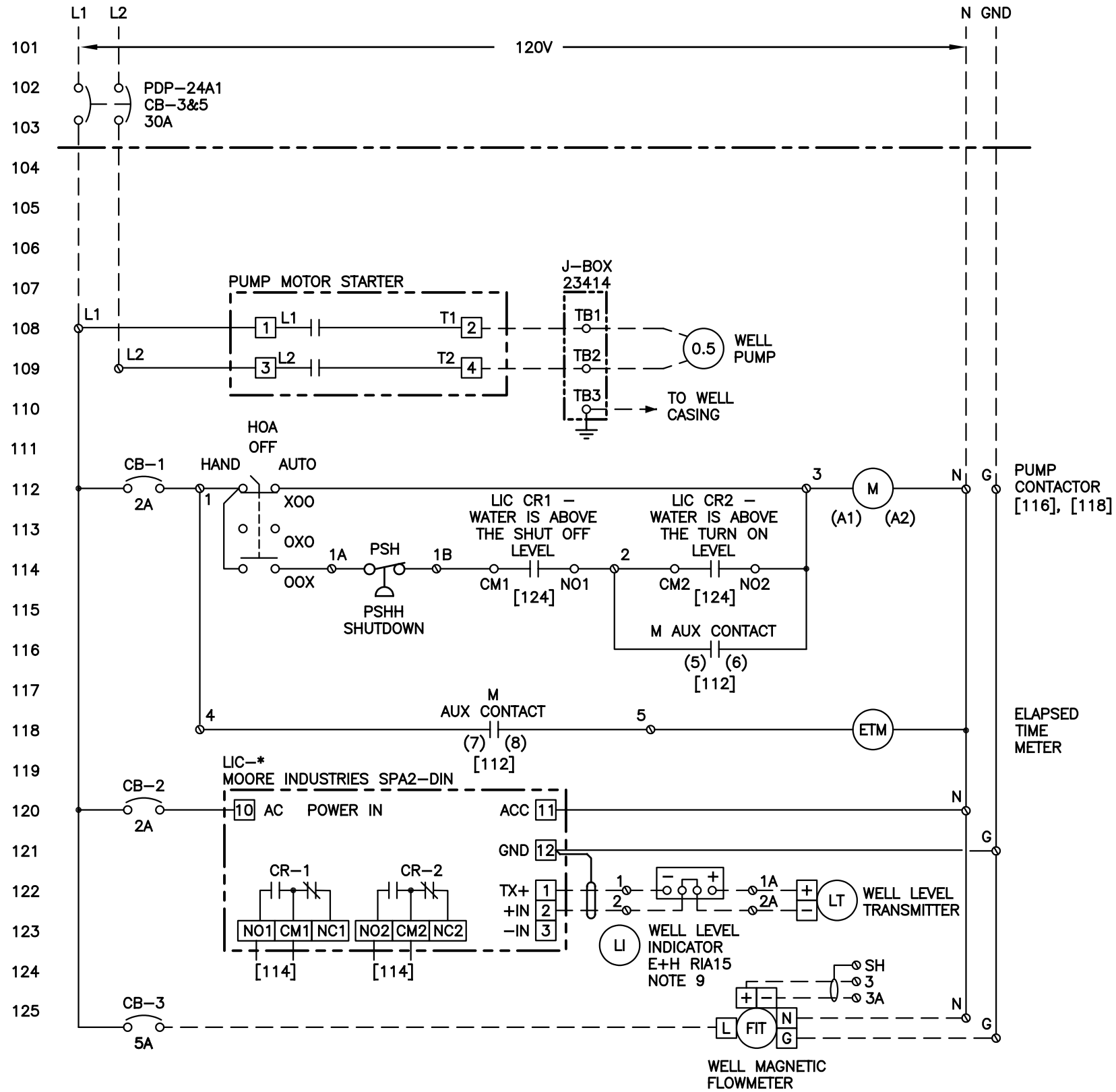
NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

**CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
SEEP WELL PUMP EW-02
CONTROL WIRING DIAGRAM**

SCALE	NONE	DATE	05-06-22
DWN	RSB	EXD	APPROVED
CHD	BR	RVWD	MAREN HENLEY
UNIT	DISC	TYPE	SYS
CH00CM	E	03	BP
			SUBSYS
			AP
			NUMBER
			B44450
			SHEET
			4031

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.

DRAWING:



- SHEET NOTES:**
1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
 2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
 3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
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 7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
 8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
 9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
 10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
 11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION
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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
43358
ARIZONA REGISTRATION NUMBER
801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

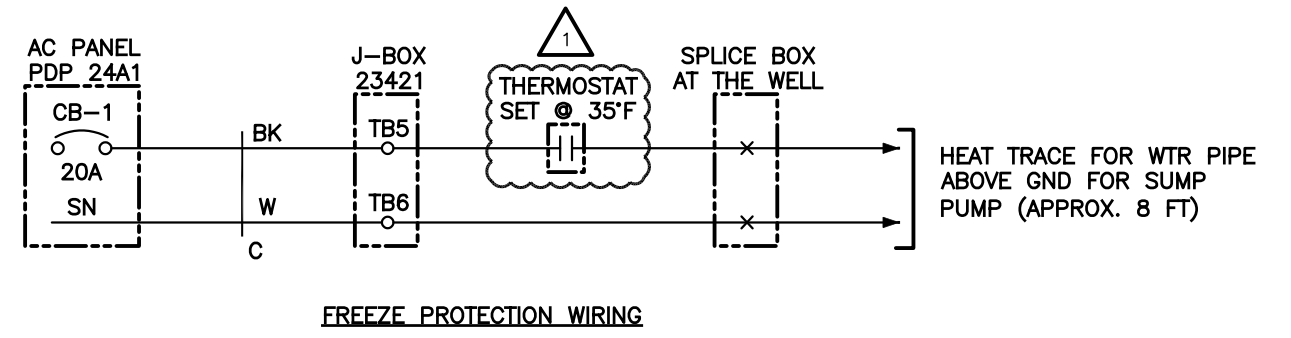
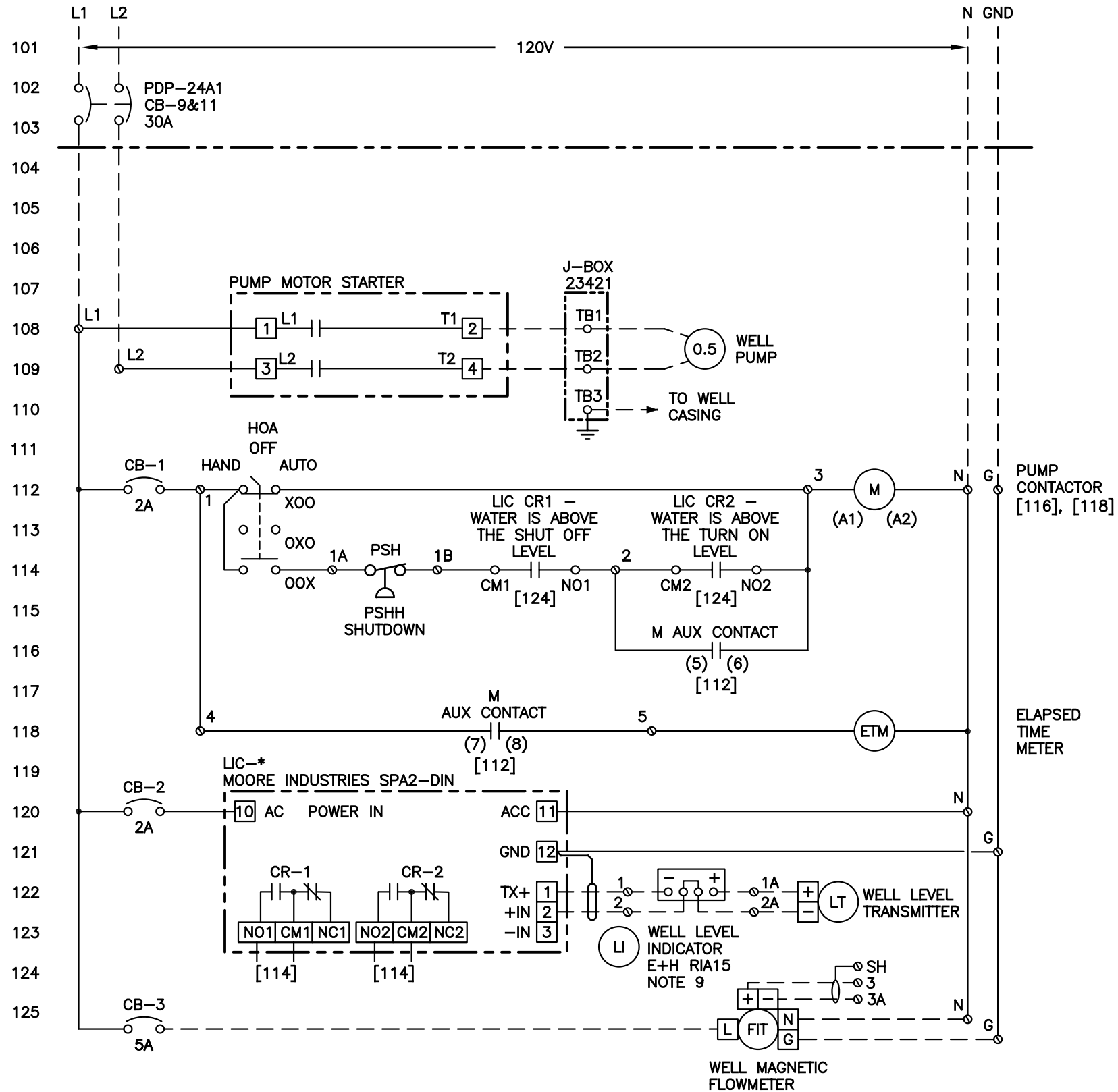
NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

**CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
SEEP WELL PUMP EW-03
CONTROL WIRING DIAGRAM**

SCALE	NONE	DATE	05-06-22
DWN	RSB	EXD	APPROVED
CHD	BR	RVWD	MAREN HENLEY
UNIT	DISC	TYPE	SYS
CH00CM	E	03	BP
			SUBSYS
			AP
			NUMBER
			B44450
			SHEET
			4032

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.

DRAWING:



- SHEET NOTES:**
1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
 2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
 3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
 4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
 5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
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 8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
 9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
 10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
 11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION

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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

CHOLLA SES COMMON FA POND SEEP INTERCEPT SYS SEEP WELL PUMP EW-04 CONTROL WIRING DIAGRAM

SCALE NONE

DWN RSB EXD

CHD BR RVWD JJ

UNIT CH00CM

DATE 05-06-22

APPROVED
MAREN HENLEY
DRAWING APPROVED BY

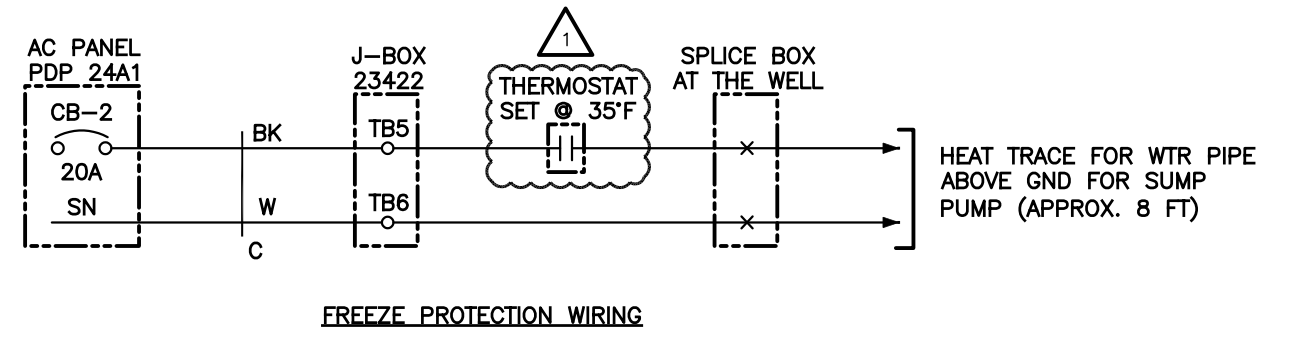
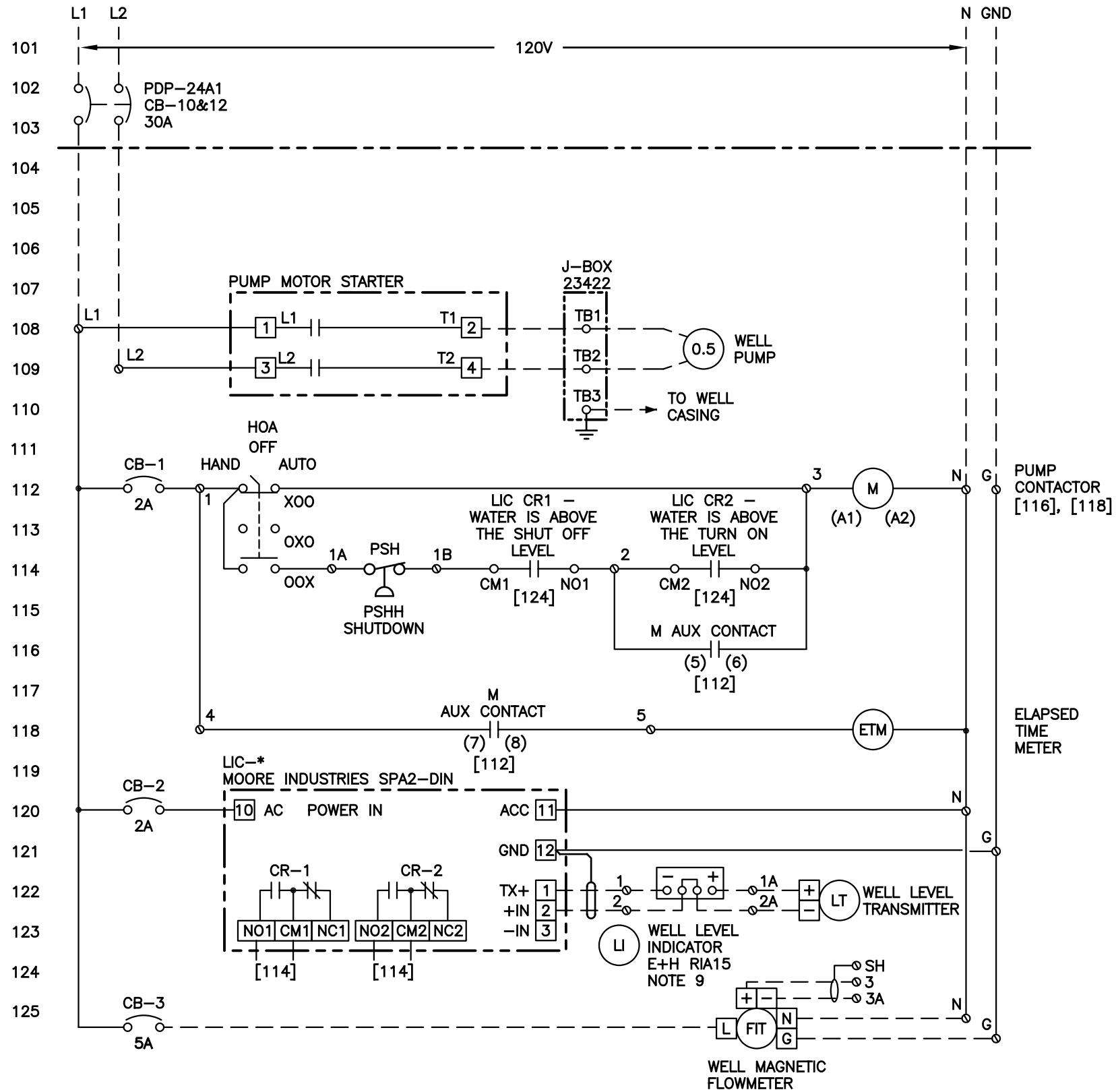
W A

CHC08903

SUBSYS NUMBER SHEET

AP B44450 4033

DRAWING: THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.



- SHEET NOTES:**
1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
 2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
 3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
 4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
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 10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
 11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION
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JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE
43358
ARIZONA REGISTRATION NUMBER
801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

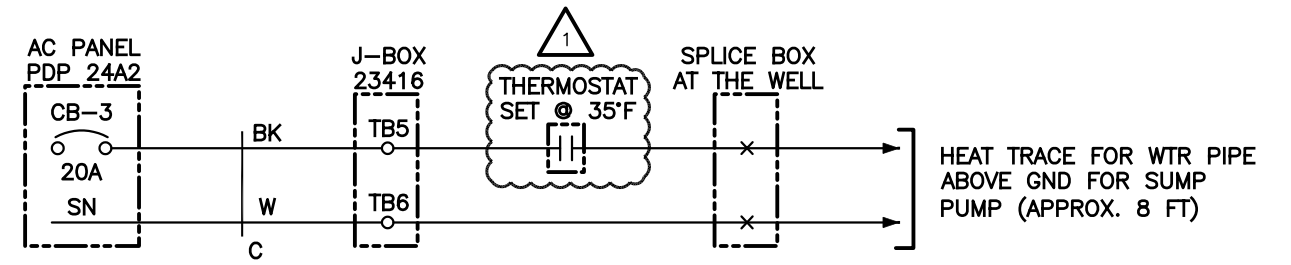
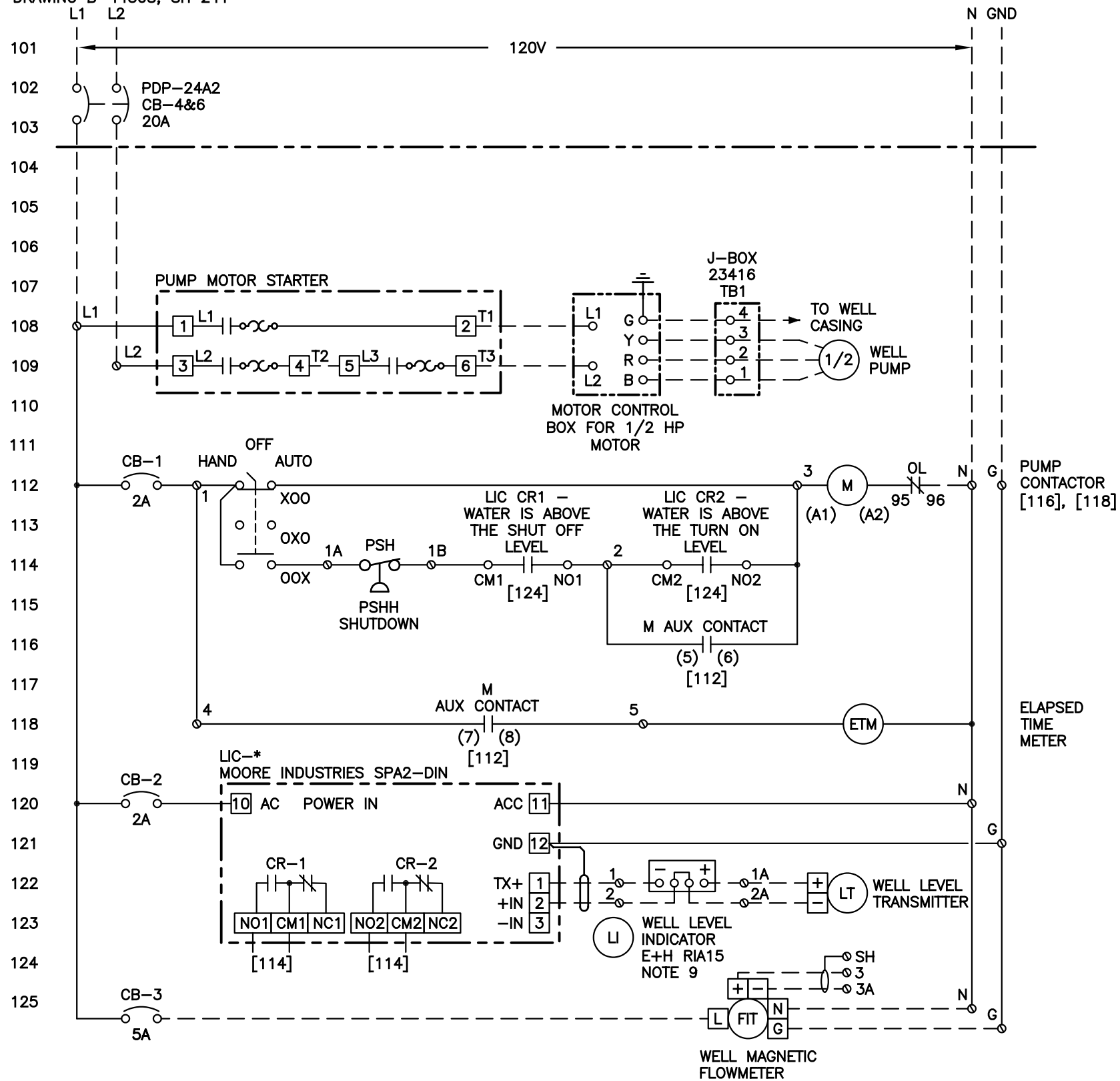
**CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
SEEP WELL PUMP GSX1R
CONTROL WIRING DIAGRAM**

SCALE	NONE	DATE	05-06-22
DWN	RSB	EXD	APPROVED
CHD	BR	RVWD	MAREN HENLEY
UNIT	DISC	TYPE	SYS
CH00CM	E	03	BP
			SUBSYS
			NUMBER
			B44450
			SHEET
			4034

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.

DRAWING:

240V FROM PDP-24A2 REF.
DRAWING B-44308, SH 241



FREEZE PROTECTION WIRING (EXISTING)

SHEET NOTES:

1. WHEN THE PUMP IS RUN IN THE AUTO MODE IT IS CONTROLLED BY THE LEVEL (LIC) TRANSMITTER.
2. LIC CR1 (LSL) CONTACT CLOSING WHEN WELL LEVEL RISES ABOVE THE "SHUT PUMP OFF" DEPTH.
3. WHEN THE LEVEL FALLS BELOW THE "SHUT PUMP OFF" DEPTH, LIC CR1 (LSL) WILL OPEN STOPPING THE MOTOR.
4. LIC CR2 (LSH) CONTACT CLOSING WHEN THE WELL LEVEL RISES ABOVE THE "START PUMP DOWN" LEVEL AND THE WELL STARTS.
5. M (HOLDING CONTACT) CLOSING WHEN THE CONTACTOR IS ENERGIZED. THE CONTROL CIRCUIT WILL KEEP THE PUMP OPERATING AS THE LEVEL BEGINS TO FALL.
6. IF THE PUMP IS RUN MANUALLY (HAND MODE) FROM THE CONTROL PANEL, THE OPERATOR MUST NOT LET THE PUMP RUN DRY BY MONITORING THE FLOWMETER.
7. THE SYSTEM WILL CYCLE LIKE THIS AS LONG AS THE WELL HAS POWER.
8. PROVIDE ENM MODEL T18BG52BC02 ELAPSED TIME METER (ETM).
9. PROVIDE W/E+H RIA15-AAA3-PCPD ANALOG LEVEL DISPLAY & NAMEPLATE MOUNTED ON ENCLOSURE DOOR.
10. PSH CONTACT OPENS WHEN PRESSURE INCREASES ABOVE SHUTDOWN SETPOINT, STOPPING THE MOTOR. (NC CONTACT OPEN AT 100PSI).
11. SPA2/HLPRG/2PRG/U/-DPDT/DIN IS COMPLETE PART NUMBER FOR MOORE ALARM RELAY.

AS-BUILT CERTIFICATION

THIS SET OF AS-BUILT/RECORD DRAWINGS REFLECT CHANGES FROM THE ORIGINAL CONTRACT DRAWINGS THAT WERE MADE DURING CONSTRUCTION AND HAVE BEEN PREPARED FROM INFORMATION PROVIDED TO THE ENGINEER BY THE CONSTRUCTION CONTRACTOR(S). THE ENGINEER DOES NOT WARRANT THIS DRAWING SET TO BE COMPLETE AND ACCURATE IN ALL RESPECTS.

JEFFREY JORGENSEN 05/23/2023
ARIZONA REGISTERED PROFESSIONAL ENGINEER DATE

43358
ARIZONA REGISTRATION NUMBER

801-793-8036
TELEPHONE NUMBER

WORK SAFELY TODAY

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W A
1	05-23-23	AS BUILT	ADB	BR	RAW	JJ	MH	CHC08903
0b	05-06-22	ISSUED FOR CONSTRUCTION	RSB	BR		JJ	MH	CHC08903
0a	03-18-22	ISSUED FOR BID	RSB	BR		JJ	MH	CHC08903

CHOLLA SES COMMON
FA POND SEEP INTERCEPT SYS
SEEP WELL PUMP GSX4
CONTROL WIRING DIAGRAM

SCALE	NONE	DATE	05-06-22
DWN	RSB	EXD	APPROVED
CHD	BR	RVWD	MAREN HENLEY
UNIT	DISC	TYPE	SYS
CH00CM	E	03	BP
			SUBSYS
			NUMBER
			B44450
			SHEET
			4035

THIS DRAWING IS CONFIDENTIAL AND SHALL NOT BE USED OR REPRODUCED IN ANY PART WITHOUT WRITTEN CONSENT OF PINNACLE WEST CAPITAL CORP.

DRAWING:

APPENDIX

B

CONSTRUCTION FIELD
REPORTS



Cholla Fly Ash Pond Seepage Project



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
8/22/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Starting pre-fabrication of small-bore piping above ground and receiving materials.

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	2%		Underground Completion	Using Loctite N-5000 anti-seize on the unions

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	
Pumps	No		09/12/22	
Panels and Displays	Yes	100%		
Fencing	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	No		08/29/22	

ISSUES BOARD

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS



Cholla Fly Ash Pond Seepage Project CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
8/23/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Starting pre-fabrication of small-bore piping above ground and receiving materials. Civil work HDPE and conduit will start next week.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	2%		Underground Completion	Pics Attached

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	Civil Work Will Start 08/29/21
Pumps	No		09/12/22	
Panels and Displays	Yes	100%		Picture Attached
Fencing	No		9/26/22	
Switches and Gauges	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	No		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Small Bore Piping (On Going)	Allied Mechanical	08/22/22 through 08/25/22
(Next Week) Civil work	J-4	08/29/22
(Next Week) Underground HDPE Piping	J-4	08/29/22
(Next Week) Underground Conduit	Allied Electrical	08/30/22



Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
8/24/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

No Work Today. Civil work HDPE and conduit will start next week.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	2%		Underground Completion	Pics Attached

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	Civil Work Will Start 08/29/21
Pumps	No		09/12/22	
Panels and Displays	Yes	100%		Picture Attached
Fencing	No		9/26/22	
Switches and Gauges	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	No		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Small Bore Piping (On Going)	Allied Mechanical	08/22/22 through 08/25/22
(Next Week) Civil work	J-4	08/29/22
(Next Week) Underground HDPE Piping	J-4	08/29/22
(Next Week) Underground Conduit	Allied Electrical	08/30/22



Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
8/29/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Continued pre-fab of small bore above ground pipe. Civil work started today mostly with mobilization of equipment and beginning of Electrical trenches

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	5%		Underground Completion	Pics Attached
Electrical conduit trenching	5%			

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	Started 08/29/21
Pumps	No		09/12/22	
Panels and Displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Switches and Gauges	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	No		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab Small Bore Piping (On Going)	Allied Mechanical	08/29/22 through 09/01/22
Civil work	J-4	08/29/22 through 09/01/22
Underground HDPE Piping	J-4	08/29/22 through 09/01/22
Underground Conduit	Allied Electrical	08/29/22 through 09/01/22





Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
8/30/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Continued pre-fab of small bore above ground pipe. Civil work continued today mostly electrical trenches.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	15%		Underground Completion	Pics Attached
Electrical conduit trenching	20%			

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Guages	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	Started 08/29/21
Pumps	No		09/12/22	
Panels and Displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	No		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab Small Bore Piping (On Going)	Allied Mechanical	08/29/22 through 09/01/22
Civil work	J-4	08/29/22 through 09/01/22
Underground HDPE Piping	J-4	08/29/22 through 09/01/22
Underground Conduit	Allied Electrical	08/29/22 through 09/01/22











Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/01/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Continued pre-fab of small bore above ground pipe. Civil work continued today for electrical and HDPE. We placed tape and backfilled the trench for road crossings.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	20%		Underground Completion	Pics Attached
Electrical conduit trenching	35%		Trenches	Backfilled the Road Crossing

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Started Pre-Fab
Below Ground Piping	No		08/29/22	Started 08/29/21
Pumps	No		09/12/22	
Panels and Displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab Small Bore Piping (On Going)	Allied Mechanical	09/06/22 through 09/08/22
Civil work for Electrical	J-4	09/06/22 through 09/08/22
Underground HDPE Piping	J-4	09/06/22 through 09/08/22
Underground Conduit	Allied Electrical	09/06/22 through 09/08/22











We discovered a test well under grade that we will have to route our HDPE piping around and angle the above ground piping to match the shortened distance from well







Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/06/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Continued pre-fab of small bore above ground pipe. Civil work continued today for electrical and HDPE. We placed tape and backfilled the trenches for electrical conduit.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	20%		Underground Completion	Pics Attached
Electrical conduit trenching	35%		Trenches	Backfilled the Road Crossing

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab On going (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/12/22	No Shroud
Panels and displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab Small Bore Piping (On Going)	Allied Mechanical	09/06/22 through 09/08/22
Civil work for Electrical	J-4	09/06/22 through 09/08/22
Underground HDPE Piping	J-4	09/06/22 through 09/08/22
Underground Conduit	Allied Electrical	09/06/22 through 09/08/22



We discovered a test well under grade that we will have to route our HDPE piping around and angle the above ground piping to match the shortened distance from well







Cholla Fly Ash Pond Seepage Project CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/07/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Continued pre-fab of small bore above ground pipe. Civil work continued today for electrical and HDPE. We placed tape and backfilled the trenches for electrical conduit.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	20%		Underground Completion	
Electrical conduit trenching	50%			Geronimo Side
Electrical Control Panel Racks	25%			3 of 5 on Geronimo

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab On going (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/12/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	No		9/26/22	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab Small Bore Piping (On Going)	Allied Mechanical	09/06/22 through 09/08/22
Civil work for Electrical	J-4	09/06/22 through 09/08/22
Underground HDPE Piping	J-4	09/06/22 through 09/08/22
Underground Conduit	Allied Electrical	09/06/22 through 09/08/22











Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/08/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

STATUS SUMMARY

Completed pre-fab of small bore above ground piping

Completed our second concrete encasement for road crossings. Continued installing footings for electrical panels

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	80%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	80%			Geronimo Side
Electrical Control Panel Racks	80%			4 of 5 on Geronimo Side
Electrical Trenching (excavated)	100%			Geronimo Side
HDPE Trenching	10%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/12/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	Yes		Yes	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab and Install 10"-8" adapters on existing Well Casing	Allied Mechanical	09/12/22 through 09/15/22
Civil work for electrical	J-4	09/12/22 through 09/15/22
Underground HDPE piping	J-4	09/12/22 through 09/15/22
Underground conduit and mounting power panels	Allied Electrical	09/12/22 through 09/15/22











Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/14/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installed Control Panels on Geronimo

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	80%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	80%			Geronimo Side
Electrical Control Panel Racks	80%			4 of 5 on Geronimo Side
Electrical Trenching (excavated)	100%			Geronimo Side
HDPE Trenching	10%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/12/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		9/26/22	
Pressure Switches	Yes		Yes	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pre-Fab and Install 10"-8" adapters on existing Well Casing	Allied Mechanical	09/12/22 through 09/15/22
Civil work for electrical	J-4	Weather postponed this work
Underground HDPE piping	J-4	Weather postponed this work
Underground conduit and mounting power panels	Allied Electrical	09/12/22 through 09/15/22





Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/15/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installed Control Panels and wire on Geronimo Side

Installed Well Pipe Adapters

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	80%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	80%			Geronimo Side / Backfill left
Electrical Control Panel's	80%			6 of 7 on Geronimo Side
Electrical Trenching (excavated)	100%			Geronimo Side
HDPE Trenching	10%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		10/03/22	
Pressure Switches	Yes		Yes	
Cable	No		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Complete Install of Well Pipe Adapters	Allied Mechanical	09/19/22 through 09/22/22
Civil work for electrical	J-4	09/19/22 through 09/22/22
Underground HDPE piping	J-4	09/19/22 through 09/22/22
Underground conduit and Wire Pulls	Allied Electrical	09/19/22 through 09/22/22













Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/19/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installed Control Panels and wire on Geronimo Side

Installing HDPE for Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	80%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	80%			Geronimo Side / Backfill left
Electrical Control Panel's	80%			6 of 7 on Geronimo Side
Electrical Trenching (excavated)	100%			Geronimo Side
HDPE Trenching	10%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	No		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		10/03/22	
Pressure Switches	Yes		Yes	
Cable	Yes		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Complete Install of Well Pipe Adapters	Allied Mechanical	09/19/22 through 09/22/22
Civil work for electrical	J-4	09/19/22 through 09/22/22
Underground HDPE piping	J-4	09/19/22 through 09/22/22
Underground conduit and Wire Pulls	Allied Electrical	09/19/22 through 09/22/22





EW 03







Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/22/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installing HDPE for Geronimo side
Pressure Tested EW-03 and backfilling what we can of EW-01 & EW-02

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	95%			6 of 7 on Geronimo Side
Electrical Trenching (Backfill)	70%			Geronimo Side
HDPE Trenching	40%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		10/03/22	
Pressure Switches	Yes		Yes	
Cable	Yes		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pump Piping	Allied Mechanical	09/26/22 through 09/29/22
Civil work for electrical	J-4	09/26/22 through 09/29/22
Underground HDPE piping & Pump Install	J-4	09/26/22 through 09/29/22
Underground conduit and Wire Pulls	Allied Electrical	09/26/22 through 09/29/22



Darren Mack was on-site to witness the start and finish of the test and witnessed the full three hours. We lost 8 #’s of pressure due to starting at a warmer temperature and as the rains came the temperature dropped about 15° thus affecting the HDPE





Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/26/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installing HDPE for Geronimo side

Excavating GSX-3 and GSX-4 we discovered that the existing piping was CPVC so we will have to tie in with that same material

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	95%			6 of 7 on Geronimo Side
Electrical Trenching (Backfill)	70%			Geronimo Side
HDPE Trenching	40%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes		09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No		10/03/22	
Pressure Switches	Yes		Yes	
Cable	Yes		09/06/22	
Below Ground Conduit and RGS Elbows	Yes		08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pump Piping	Allied Mechanical	09/26/22 through 09/29/22
Civil work for electrical	J-4	09/26/22 through 09/29/22
Underground HDPE piping & Pump Install	J-4	09/26/22 through 09/29/22
Underground conduit and Wire Pulls	Allied Electrical	09/26/22 through 09/29/22



Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/27/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Installing HDPE for Geronimo side

Excavating GSX-3 and GSX-4 we discovered that the existing piping was CPVC so we will have to tie in with that same material

Finished underground conduit and pulled power cables for FAP-1 & FAP-2

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	95%			6 of 7 on Geronimo Side
Electrical Trenching (Backfill)	70%			Geronimo Side
HDPE Trenching	80%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Pump Piping	Allied Mechanical	09/26/22 through 09/29/22
Civil work for electrical	J-4	09/26/22 through 09/29/22
Underground HDPE piping & Pump Install	J-4	09/26/22 through 09/29/22
Underground conduit and Wire Pulls	Allied Electrical	09/26/22 through 09/29/22



Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
9/29/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Backfilling on Geronimo side

Pressure Tested GSX-01 and EW-04 under the same pressure test as the lines are connected. Final picture attached from today

Finished underground conduit and pulled power cables for FAP-1 & FAP-2

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	95%			6 of 7 on Geronimo Side
Electrical Trenching (Backfill)	70%			Geronimo Side
HDPE Trenching	80%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/03/22 through 10/07/22
Civil work for electrical	J-4	10/03/22 through 10/07/22
Underground Pump Install	J-4	10/03/22 through 10/07/22
Underground conduit and Wire Pulls	Allied Electrical	10/03/22 through 10/07/22









Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/04/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Set Pressure switch at 80 PSI

Pump Shroud fabrication

Due to rain all day site conditions were very poor

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	95%			6 of 7 on Geronimo Side
Electrical Trenching (Backfill)	70%			Geronimo Side
HDPE Trenching	80%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/03/22 through 10/07/22
Civil work for electrical	J-4	10/03/22 through 10/07/22
Underground Pump Install	J-4	10/03/22 through 10/07/22
Underground conduit and Wire Pulls	Allied Electrical	10/03/22 through 10/07/22





Cholla Fly Ash Pond Seepage Project

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/04/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Started putting pumps and piping down EW-01 and EW-02

Due to rain all day yesterday site conditions were still poor today

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
Electrical Trenching (Backfill)	90%			Geronimo Side
Well Pump Install	40%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/03/22 through 10/07/22
Civil work for electrical	J-4	10/03/22 through 10/07/22
Underground Pump Install	J-4	10/03/22 through 10/07/22
Underground conduit and Wire Pulls	Allied Electrical	10/03/22 through 10/07/22



Cholla Fly Ash Pond Seepage Project

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/05/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Mobilized small bore piping to site
Pressure tested Hunt A

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Underground Completion	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
Electrical Trenching (Backfill)	90%			Geronimo Side
Well Pump Install	40%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (80% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/03/22 through 10/07/22
Civil work for electrical	J-4	10/03/22 through 10/07/22
Underground Pump Install	J-4	10/03/22 through 10/07/22
Underground conduit and Wire Pulls	Allied Electrical	10/03/22 through 10/07/22







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Cholla Fly Ash Pond Seepage Project

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/06/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Began installing small bore piping and running electrical for the transmitters and switches

Pressure tested HSX-1 with Darren Mack Witnessing. Pictures attached

Set EW-03 Pump Today

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Well Pump Install	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
HDPE Trenching (Backfill)	60%			Geronimo Side
Well Pump Install	0%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (90% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/10/22 through 10/13/22
Electrical for transmitters and switches	Allied Electrical	10/10/22 through 10/13/22
Underground Pump Install at Geronimo	J-4	10/10/22 through 10/13/22
Underground conduit and Wire Pulls	Allied Electrical	10/10/22 through 10/13/22







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Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/10/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Began installing small bore piping and running electrical for the transmitters and switches

Started Pressure testing GSX-4

Set EW-04 and GSX-1R Pumps Today

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Prefab above ground small bore piping	90%		Well Pump Install	Will finish when installing piping at the location
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
HDPE Trenching (Backfill)	60%			Geronimo Side
Well Pump Install	0%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (90% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/10/22 through 10/13/22
Electrical for transmitters and switches	Allied Electrical	10/10/22 through 10/13/22
Underground Pump Install at Geronimo	J-4	10/10/22 through 10/13/22
Underground conduit and Wire Pulls	Allied Electrical	10/10/22 through 10/13/22







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Cholla Fly Ash Pond Seepage Project

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/11/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Began installing small bore piping and running electrical for the transmitters and switches

Finished Pressure testing GSX-4

Set Valve boxes for Corp valves underground and compacting backfill

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	80%			EW-01,02,03,04 & GSX-1R
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
HDPE Trenching (Backfill)	60%			Geronimo Side
Well Pump Install	0%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (90% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/10/22 through 10/13/22
Electrical for transmitters and switches	Allied Electrical	10/10/22 through 10/13/22
Underground Pump Install at Geronimo	J-4	10/10/22 through 10/13/22
Underground conduit and Wire Pulls	Allied Electrical	10/10/22 through 10/13/22







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Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/12/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Began installing small bore piping and running electrical for the transmitters and switches

Installed concrete for pipe stands

Set Valve boxes for Corp valves underground and compacting backfill

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	90%			EW-01,02,03,04 & GSX-1R
Electrical conduit trenching	100%			Geronimo Side / Backfill left
Electrical Control Panel's	100%			7 of 7 on Geronimo Side
HDPE Trenching (Backfill)	90%			Geronimo Side
Well Pump Install	100%			Geronimo Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	95%	Yes	Pre-Fab (90% Done)
Below Ground Piping	Yes	100%	09/07/22	
Pumps	Yes		09/26/22	Aftermarket Shrouds only
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/03/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	09/06/22	
Below Ground Conduit and RGS Elbows	Yes	100%	08/29/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/10/22 through 10/13/22
Electrical for transmitters and switches	Allied Electrical	10/10/22 through 10/13/22
Underground Pump Install at Geronimo	J-4	10/10/22 through 10/13/22
Underground conduit and Wire Pulls	Allied Electrical	10/10/22 through 10/13/22















Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/13/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Geronimo side
 Continued electrical terminations on Geronimo side
 Backfill and compaction testing at Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	90%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
HDPE Trenching (Backfill)	90%			Geronimo Side
HDPE Trenching (Backfill)	0%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/17/22 through 10/20/22
Electrical for transmitters and switches	Allied Electrical	10/17/22 through 10/20/22
Back fill and compaction on Geronimo and Hunt side	J-4	10/17/22 through 10/20/22
Underground conduit and Wire Pulls	Allied Electrical	10/17/22 through 10/20/22









Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/17/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Geronimo side

Continued electrical terminations on Geronimo side

Pipe footings at Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	90%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
HDPE Trenching (Backfill)	100%			Geronimo Side
HDPE Trenching (Backfill)	0%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/17/22 through 10/20/22
Electrical for transmitters and switches	Allied Electrical	10/17/22 through 10/20/22
Back fill and compaction on Geronimo and Hunt side	J-4	10/17/22 through 10/20/22
Underground conduit and Wire Pulls	Allied Electrical	10/17/22 through 10/20/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/18/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Geronimo side and setting up for LOTO's for Hunt side

Continued electrical terminations on Geronimo side

Pipe footings at Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	90%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
HDPE Trenching (Backfill)	100%			Geronimo Side
HDPE Trenching (Backfill)	0%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/17/22 through 10/20/22
Electrical for transmitters and switches	Allied Electrical	10/17/22 through 10/20/22
Back fill and compaction on Geronimo and Hunt side	J-4	10/17/22 through 10/20/22
Underground conduit and Wire Pulls	Allied Electrical	10/17/22 through 10/20/22





Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/19/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Geronimo side and setting up for LOTO's for Hunt side

Continued electrical terminations on Geronimo side

Pipe footings at Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	90%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
HDPE Trenching (Backfill)	100%			Geronimo Side
HDPE Trenching (Backfill)	0%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo Small bore above ground Piping	Allied Mechanical	10/17/22 through 10/20/22
Electrical for transmitters and switches	Allied Electrical	10/17/22 through 10/20/22
Back fill and compaction on Geronimo and Hunt side	J-4	10/17/22 through 10/20/22
Underground conduit and Wire Pulls	Allied Electrical	10/17/22 through 10/20/22







Cholla Fly Ash Pond Seepage Project CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/20/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Geronimo side and setting up for LOTO's for Hunt side

Continued electrical terminations on Geronimo side

Pipe footings at Geronimo side

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	90%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
HDPE Trenching (Backfill)	100%			Geronimo Side
HDPE Trenching (Backfill)	0%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo and Hunt Small bore above ground Piping	Allied Mechanical	10/24/22 through 10/27/22
Electrical for Level Indicator calibrating	Allied Electrical	10/24/22 through 10/27/22
Back fill and compaction on Geronimo GSX-4	J-4	10/24/22 through 10/27/22
Hunt Electrical Panel Mounting	Allied Electrical	10/24/22 through 10/27/22

Cholla Fly Ash Pond Seepage Project

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/24/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Hunt and Geronimo side
Continued electrical terminations on Geronimo side and programming Level indicators

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	100%			EW-01,02,03,04 & GSX-1R
Electrical Terminations on Geronimo side	100%			Level transmitter commissioning 10/24/22
Electrical Control Panel's	0%			Hunt Side
Level Indicators	20%			Geronimo Side – EW-01 & 02
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo and Hunt Small bore above ground Piping	Allied Mechanical	10/24/22 through 10/27/22
Electrical for Level Indicator calibrating	Allied Electrical	10/24/22 through 10/27/22
Back fill and compaction on Geronimo GSX-4	J-4	10/24/22 through 10/27/22
Hunt Electrical Panel Mounting	Allied Electrical	10/24/22 through 10/27/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/25/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued Small Bore Piping on Hunt and Geronimo side

Continued electrical terminations on Geronimo side and programming Level indicators

All Level indicator's were commissioned today

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping	80%			Geronimo side GSX-3 & 4 Left
Electrical Terminations on Geronimo side	100%			Level transmitter commissioning Complete
Electrical Control Panel's	0%			Hunt Side
Level Indicators	100%			Geronimo Side
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo and Hunt Small bore above ground Piping	Allied Mechanical	10/24/22 through 10/27/22
Electrical for Level Indicator calibrating	Allied Electrical	10/24/22 through 10/27/22
Back fill and compaction on Geronimo GSX-4	J-4	10/24/22 through 10/27/22
Hunt Electrical Panel Mounting	Allied Electrical	10/24/22 through 10/27/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/26/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Completed all small bore piping on Geronimo side including the Geronimo Hunt Transmitters

Continued electrical terminations on Geronimo side and programing Level indicators

All Level indicator's were commissioned today

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping on Geronimo side	100%			Geronimo side including Geronimo Hunt transmitters
Electrical Terminations on Geronimo side	100%			Level transmitter commissioning Complete
Electrical Control Panel's	0%			Hunt Side
Level Indicators	100%			Geronimo Side
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Geronimo and Hunt Small bore above ground Piping	Allied Mechanical	10/24/22 through 10/27/22
Electrical for Level Indicator calibrating	Allied Electrical	10/24/22 through 10/27/22
Back fill and compaction on Geronimo GSX-4	J-4	10/24/22 through 10/27/22
Hunt Electrical Panel Mounting	Allied Electrical	10/24/22 through 10/27/22





Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
10/27/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Completed all small bore piping on Geronimo side including the Geronimo Hunt Transmitters

Continued electrical terminations on Geronimo side and working through the starter issues.

Geronimo GSX-3 pump failed while we were working on it. We contacted the plant and they indicated that pump has been having issues

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping on Geronimo side	100%			Geronimo side including Geronimo Hunt transmitters
Electrical Terminations on Geronimo side	100%			Level transmitter commissioning Complete
Electrical Control Panel's	0%			Hunt Side
Level Indicators	100%			Geronimo Side
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Hunt Small bore above ground Piping	Allied Mechanical	10/31/22 through 11/03/22
Hunt Electrical Panels	Allied Electrical	10/31/22 through 11/03/22
Heat Trace and Insulation at Geronimo	Allied Electrical & Mechanical	10/31/22 through 11/03/22
Heat Trace and Insulation at Hunt	Allied Electrical & Mechanical	10/31/22 through 11/03/22













Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/01/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Small Bore Piping and Control Panel were completed at HSX-1 Today

Continued heat trace on the Geronimo side.

Continued Insulating piping on the Geronimo side.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping on Geronimo side	100%			Geronimo side including Geronimo Hunt transmitters
Electrical Terminations on Geronimo side	100%			Level transmitter commissioning Complete
Electrical Control Panel's	0%			Hunt Side
Level Indicators	100%			Geronimo Side
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping & Gauges	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and displays	Yes	100%	Yes	
Fencing	No	0%	10/24/22	
Pressure Switches	Yes	100%	Yes	Set Point at 80 PSI?
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TO	DATE
Hunt Small bore above ground Piping	Allied Mechanical	10/31/22 through 11/03/22
Hunt Electrical Panels	Allied Electrical	10/31/22 through 11/03/22
Heat Trace and Insulation at Geronimo	Allied Electrical & Mechanical	10/31/22 through 11/03/22
Heat Trace and Insulation at Hunt	Allied Electrical & Mechanical	10/31/22 through 11/03/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/02/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Small Bore Piping and Control Panel were completed at Hunt A today which means all piping is complete. Heat trace and insulation left. Continued heat trace on the Geronimo side.
Continued Insulating piping on the Geronimo side.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Install above ground piping on Hunt side	100%			Hunt piping complete and heat trace in progress. Insulation left
Electrical Terminations on Hunt side	90%			Heat trace left
Electrical Control Panel's	100%			Hunt Side
Level Indicators	100%			Hunt Side
HDPE Trenching (Backfill)	100%			Hunt Side

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Heat Trace	Yes	100%	Yes	In Progress
Insulation	Yes	100%	Yes	In Progress
Fencing	No	0%	11/14/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Hunt Small bore above ground Piping	Allied Mechanical	10/31/22 through 11/03/22
Hunt Electrical Panels	Allied Electrical	10/31/22 through 11/03/22
Heat Trace and Insulation at Geronimo	Allied Electrical & Mechanical	10/31/22 through 11/03/22
Heat Trace and Insulation at Hunt	Allied Electrical & Mechanical	10/31/22 through 11/03/22









Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/08/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued heat trace on Hunt side

Continued insulation on the Geronimo and Hunt side.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Insulation Hunt Side	70%			
Insulation the Geronimo side	90%			
Heat Trace Geronimo side	100%			
Heat Trace Hunt side	90%			
Fencing	0%			

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Heat Trace	Yes	100%	Yes	In Progress
Insulation	Yes	100%	Yes	In Progress
Fencing	No	0%	11/14/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Heat Trace and Insulation at Geronimo	Allied Electrical & Mechanical	11/07/22 through 11/10/22
Heat Trace and Insulation at Hunt	Allied Electrical & Mechanical	11/07/22 through 11/10/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/09/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Continued heat trace on Hunt side

Continued insulation on the Geronimo and Hunt side.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Insulation Hunt Side	80%			
Insulation the Geronimo side	90%			
Heat Trace Geronimo side	100%			
Heat Trace Hunt side	100%			
Fencing	0%			

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Heat Trace	Yes	100%	Yes	In Progress
Insulation	Yes	100%	Yes	In Progress
Fencing	No	0%	11/14/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Heat Trace and Insulation at Geronimo	Allied Electrical & Mechanical	11/07/22 through 11/10/22
Heat Trace and Insulation at Hunt	Allied Electrical & Mechanical	11/07/22 through 11/10/22

Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/17/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Insulator's applied tin to piping

ARV leak issue appears to be foreign material in the line. We are currently formulating a plan to perform a blowdown of new systems with plant operations to clear any other possible foreign materials.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Insulation Hunt Side	90%			Milo and Darren identified some areas that need work
Insulation the Geronimo side	90%			Milo and Darren identified some areas that need work
Heat Trace Geronimo side	100%			
Heat Trace Hunt side	100%			
Fencing	0%	Start 12/13/22		

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECIEVED	% OF TOTAL	ON TRACK?	NOTES
Fencing	No	0%	12/13/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TOO	DATE
Insulation at Geronimo	Allied Electrical & Mechanical	11/21/22 through 11/24/22
Insulation at Hunt	Allied Electrical & Mechanical	11/21/22 through 11/24/22
Clear lines from foreign material	Allied Electrical & Mechanical	11/21/22 through 11/24/22



Cholla Fly Ash Pond Seepage Project

CHC-08903



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
11/29/22	Cholla Fly Ash Pond Seepage Project	Jess Edmenson

TODAY'S WORK

Insulator's finishing punch list items

ARV leak issue appears to be foreign material in the line. We will be performing blowdowns with plant operations to clear any other possible foreign materials on Thursday.

TASKS THAT WE ARE WORKING NOW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Insulation Hunt Side	99%			Milo and Darren identified some areas that need work
Insulation the Geronimo side	99%			Milo and Darren identified some areas that need work
Heat Trace Geronimo side	100%			
Heat Trace Hunt side	100%			
Fencing	0%	Start 12/13/22		

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Fencing	No	0%	12/13/22	

FIVE DAY LOOK AHEAD

TASK	ASSIGNED TO	DATE
Insulation at Geronimo	Allied Electrical & Mechanical	11/28/22 through 12/01/22
Insulation at Hunt	Allied Electrical & Mechanical	11/28/22 through 12/01/22
Clear lines from foreign material	Allied Electrical & Mechanical	11/28/22 through 12/01/22

DAILY FIELD RECORD					
Page 1 of 2					
Project and Task Number: 1420212034			Date: 7/20/2022-7/21/2022		
Project Name: FAP Seepage Intercept System Improve.			Field Activity: Hunt Trench Investigation		
Location: Cholla Power Plant			Weather: sunny and warm		
PERSONNEL:	Name	Company		Time In	Time Out
	B Conrad, K Adams, C Cady	APS			
	Dave Bittner	Allied			
	Charlie, helper	J-4 (sub to Allied)			
	M. Henley, B Weaver, D Mack, K Tahghighi	Wood			
PERSONAL SAFETY CHECKLIST					
X	Steel-toed Boots	X	Hard Hat	X	Safety Vest
	Nitrile Gloves	X	Safety Glasses		Dust Mask
Equipment #	DESCRIPTION OF Equipment				
	Mini-excavator				
TIME	DESCRIPTION OF WORK PERFORMED				
7/20/2022					
10am	Team assembled at the Hunt trench location, near the sump.				
10-2pm	<p>J-4 excavated a total of 4 test pits with the mini-ex. Three of these pits were along the Hunt seepage trench (TP-1 through TP-3 in order along the trench from the sump headed east). TP-4 was located south of the trench (southeast of the sump). The collection trench and pipe were encountered in all 3 test pits along the trench alignment, but groundwater was only encountered in TP-2, at ~8.5' below grade, which later rose to about ~6.3' below grade (when measured a couple hours after digging pit). An APS employee was onsite in the early afternoon to measure elevation readings and locations of each test pit. After this information was collected TP-1 and TP-4 were backfilled at the direction of Wood and TP-2 and TP-3 were left open overnight to see if there would be any addition seepage of groundwater into those trenches. Allied was directed to establish</p> <p><u>Survey Information, in sequence excavated:</u></p> <p><i>TP-1</i> Ground surface at SW corner: N. 148913.699; E. 669632.109; Elevation: 5030.0 Top of pipe elevation: 5062.2</p> <p><i>TP-2</i> Ground surface at NE corner: N. 1428753.516, E. 669830.406, Elevation: 5032.9Top of pipe: - 3.2' or Elevation ~5029.7 Groundwater: -6.3' or Elevation ~5026.6</p> <p><i>TP-3</i> Ground surface at NW corner: N. 1428672.905, E. 669930.967, Elevation: 5036.0 Top of pipe: - 7' or Elevation ~5029.0 Bottom of TP: -9' or Elevation ~5027.0</p> <p><i>TP-4</i> Ground surface at SW corner: N.1428890.196, E. 669607.036, Elevation: 5030.0 Bottom of TP: - 8.2 or Elevation ~5021.8</p>				



DAILY FIELD RECORD (continued)

Page 2 of 2

Project and Task Number:

Date: 7/21/2022

TIME	DESCRIPTION OF WORK PERFORMED
9am	B. Weaver and K. Tahghighi returned to the Hunt trench to inspect TP-2 and TP-3 along with Allied personnel (name not recorded). In TP-2 groundwater in the pit had risen about 6 inches to approximately 5'9 inches below the ground. No picture was taken. There was no groundwater present in TP-3. Allied was directed by Wood to refill both holes.

TP-1 on 7/20/2022



TP-2 on 7/20/2022, 11:35am



TP-3 on 7/20/2022



TP-4 on 7/20/2022



PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/15/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	25%	12/29/22		Expected completion 12/29/22
Punch list completion	80%	12/21/22		Expected completion 12/21/22
Turnover document package	25%	12/29/22		Expected completion 12/22/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	25%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/19/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	35%	12/29/22		Expected completion 12/29/22
Punch list completion	90%	12/21/22		Expected completion 12/21/22
Turnover document package	25%	12/29/22		Expected completion 12/22/22
Pump areas gravel spread	50%	12/29/22		Expected completion 12/22/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	35%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/20/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	45%	12/29/22		Expected completion 12/29/22
Punch list completion	90%	12/21/22		Expected completion 12/21/22
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	75%	12/29/22		Expected completion 12/22/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	45%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/21/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	60%	12/29/22		Expected completion 12/29/22
Punch list completion	95%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	60%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/22/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	70%	12/29/22		Expected completion 12/29/22
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	70%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/27/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	80%	12/29/22		Expected completion 12/29/22
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	80%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/28/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	80%	12/29/22		Expected completion 12/29/22
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	80%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

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PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/29/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	80%	12/29/22		Expected completion 12/29/22
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 12/29/22
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	80%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover
- Gravel spread in pump area enclosures

=

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
12/30/22	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	95%	01/03/23		Expected completion 01/03/23
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 01/03/23
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	80%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover

-

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
01/05/23	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	98%	01/12/23		Expected completion 01/12/23
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 01/03/23
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	98%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover

-

PROJECT STATUS REPORT

PROJECT SUMMARY

REPORT DATE	PROJECT NAME	PREPARED BY
01/10/23	Cholla Fly Ash Pond Seepage Project	David Bittner

STATUS SUMMARY

See conclusions category

PROJECT OVERVIEW

TASK	% DONE	DUE DATE	DRIVER	NOTES
Geronimo, Hunt, and Bottom Ash seep fencing	98%	01/12/23		Expected completion 01/12/23
Punch list completion	98%	12/21/22		Remaining - control panel hoods
Turnover document package	25%	12/29/22		Expected completion 01/03/23
Pump areas gravel spread	100%	12/29/22		Completed 12/21/22

MATERIAL RECEIVED OVERVIEW

CATEGORY	RECEIVED	% OF TOTAL	ON TRACK?	NOTES
Transmitter	Yes	100%	Yes	
Above ground Piping	Yes	100%	Yes	
Below Ground Piping	Yes	100%	Yes	
Pumps	Yes	100%	Yes	
Panels and instrumentation	Yes	100%	Yes	
Fencing	Yes	98%	Yes	
Cable	Yes	100%	Yes	
Below Ground Conduit and RGS Elbows	Yes	100%	Yes	

ISSUE	ASSIGNED TO	DATE

CONCLUSIONS/RECOMMENDATIONS

Project major activities are mostly complete. Exceptions include -

- Fencing completion
- Punch list completion
- Project documentation package turnover

-

Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

September 1, 2022

People Onsite:

- Wood: Darren Mack
- APS: Steven (Milo) Nicholson
- Allied: Jesse Edmensen, Jack, Quinten
 - J4: Joe, Carlos

Activities

- Electrical trenching
- HDPE trenching
- Backfilled portion of electrical trench to be able to drive across (placed warning tape)
 - Will get sand and back fill correctly after

Field Notes

- Found buried unmarked monitoring well approx. 16' East of EW-04
 - Not sure if abandoned or in use – need to verify
 - Need approval on how to move forward – bury, leave lid/cover exposed, etc.
 - Will need to bend HDPE to avoid this well
- Unmarked utility from GSX-3 sump
 - 6" fiberglass tubing (TRANSITE – AVOID) PLACE RIBBON/tracer wire ABOVE FOR FUTURE DIGGING/WARNING) *yellow tape stating asbestos
 - Approx. 2' below grade – electrical can go over and HDPE go under (USE INSULATION OR BLANKET)
- North-South seepage trench is more west than shown on plans, approx. 3' wide with standing water at 2' below grade. HDPE will need to go over. Can place fabric between gravel and HDPE
- Electrical trench from EW-02 curved East to existing PDP-24A2, no 90 bend like on plans (field fit is ok)
- Allied wants to 45 out of EW-04 to avoid existing trench/fabric to north – will send photos and ask for approval (field fit is ok)
- Allied wants to tie in vertically at GSX-1 instead of horizontally – will send photos and ask for approval
- Who is representative for air pressure testing? What are req's? what pressure is expected?
- Jess mentioned some kickback with pump manufacturer, they don't recommend this pump for this purpose, they recommended an environmental pump
 - Milo brought up the pumps used at 4 corners that are working well– can provide the submittals for those
 - Working on this TBD from URS

Action Items

- Wood (Darren) to send email with photos of unknown monitoring well to everyone to get approval for next steps
- Allied to send RFIs or at least emails asking for approval if any deviations from plans

Outstanding RFIs

- Two outstanding RFIs

- Submittal to change small carbon use to Stainless Steel – Jess submitted these a couple weeks back – asked to resend to get an answer ASAP
- Submittal about connections from new wells to existing feed line. It is 5' deep, Jess submitted RFI about possible connection on 8/31/22

Main Photos:





Fly Ash Pond Seepage Interception System CHOLLA Generating Station Wells Pump Installation-APS Contract CHC08903 Field Visit Notes

September 15, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Welders and Electrical

Activities

- Welding 8" to 10" adapters
- Control panels

Field Notes

- No civil work – rained out
- Welded 8" to 10" adapters
- Located main HDPE feed line approx. 4' below grade
- 1 control panel remaining to install – posts are set

Outstanding RFIs

None

Photos:



8" to 10" adapter



looking east – HDPE and conduit trench



Located HDPE feed line



electrical tie into box

Fly Ash Pond Seepage Interception System CHOLLA Generating Station Wells Pump Installation-APS Contract CHC08903 Field Visit Notes

September 21, 2022

People Onsite:

- Wood: Darren Mack
- APS: Milo, Kurt
- Allied: Quinten, Jess
 - JBar4: Joe, Carlos

Activities

- Pressure testing at EW-01
 - Held 141psi for the 3-hour test (held overnight for about 28hrs total)
- Pressure testing at EW-02
 - Started at 142psi, dropped 1psi after 2 hours
 - Changed to 2-hour duration due to lightning
- Excavating for HDPE tie in for EW-03

Field Notes

- Electrical trench on North side instead of South side
- Brass connection into main feed line to be corrosive wrapped and photo verified the valve is open before backfilling
- J4 may start on Hunt side in next 2 weeks
- Approx. 90LF of foam insulation board to be used for shallow HDPE trench from EW-04

RFIs

- Insulation board for pipe burials less than 3-ft
- PVC Shroud

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

September 22, 2022

People Onsite:

- Wood: Darren Mack
- APS: Milo, Kurt
- Allied: Quinten, Jess, Dave
 - JBar4: Joe, Carlos Jesus

Activities

- Pressure testing at EW-02
 - Started at 142psi, dropped 1psi after 2 hours (done on 9/21/22)
 - Was 133psi 21 hours after test started (checked morning of 9/22/22)
- HDPE tie in trench for EW-03
 - Slow digging to go across 2 existing diagonal electrical conduits
 - Tie into feed line will be below an existing electrical conduit not marked on plans
- Pressure testing at EW-03
 - Started at 140psi (was sunny weather and pipe was warm)
 - After 3 hours was at 132psi (15-degree weather drop)
 - Back to 135psi after storm at 3 hours 30mins
- Backfilled some of EW-01 and EW-02 and electrical trench from EW-01
 - Placed tracer wire above pipe
- All conduit placed from EW-01 to Hunt/Geronimo tie in pipes

Field Notes

- More PVC conduit delivered for the mag meter trench
- Electrical conduit running below feed line – may be abandoned as it does not tie into PDP-24A2

Questions

- Crossing seepage trench from EW-04 on south side of conduit and going through seepage trench at 3' if no pipe found
 - This avoids insulation and elevations changes requiring ARVs
 - Will hand dig seepage trench to see if they find an existing pipe
- Possible RFI about the well head detail
 - As of now, it can be installed to plan, but any future maintenance will be a pain
 - Having the screw off the flange will twist the wires/turn pump
 - Allied/J4 suggesting having 2 holes through flange to be able to pull without twisting entire flange

RFIs

- NONE

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

October 6, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quinten, Jess,
 - JBar4: Joe, Carlos

Activities

- EW-01 and EW-02 both pumps set and capped
 - Working on above ground piping
- EW-03 finished setting pump
- Set GSX-1R pump and capped
- Pressure tested Hunt HSX-1
 - Lost 5psi after 3 hours (temperature drop from storm)

Field Notes

- Trench from EW-04 to GSX-1R backfilled
- Electrical trenches backfilled
- HDPE trenches almost complete
 - Connections to main feed left exposed for new valve boxes

Questions

- NONE

RFIs

- NONE

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

October 11, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quentin
 - JBar4: Joe, Carlos, others
 - Speedie & Associates

Activities

- Setting risers and valve boxes at HDPE main feed tie ins
- Back filling in lifts and compacting
- Compaction testing being done by Speedie
 - Took samples and readings for compaction
 - Will have results 10/12 morning
 - JBar4 stopped increasing lifts incase compaction is not adequate – will continue 10/12
- Above ground piping being installed on GSX-1R

Field Notes

- Above ground piping done on EW-01, EW-02 and EW-03
- Pump set on EW-04
- Concrete should be poured 10/12 for pipe support footings
- JBar4 will finish their work next week
 - This includes the fencing
- Believe start up activities will be first week of November

Questions

- NONE

RFIs

- NONE

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

November 3, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quentin
 - Mountain West: Milo

Activities

- Heat tracer and insulation being done on all above ground piping
 - Existing equipment completed
 - New wells insulating today
- Reviewing startup and commissioning checklist plan

Field Notes

- Fencing to start next week, 11/7
- Formal startup/commissioning likely week of 11/14
- GSX-3 failure from 10/27
 - Was a weak pump and when pulled it was clogged
 - Up and running now
- Hunt side was difficult this week, few late nights due to working in shifts

Questions

- NONE

RFIs

- NONE

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

November 9, 2022

People Onsite:

- Wood: Darren Mack

Activities

- Heat tracer and insulation still being done on all above ground piping
- No fencing started yet
 - Several weeks out for completion, hopefully will start next week
- Looked at Hunt side wells, heat tracing and insulation done there
- Will meet with Milo on 11/16 to walk through the startup and commissioning plan documents

Field Notes

- Fencing to hopefully start next week, 11/14
- EW-01: still working on insulation, heat tracing done
- EW-02: still working on insulation, heat tracing done
- GSX-4: still working on insulation, heat tracing done
- EW-03: done with insulation and heat tracing
- GSX-3: done with insulation and heat tracing
- GSX-1R: done with insulation and heat tracing
- EW-04:: done with insulation and heat tracing
- Hunt-A: done with insulation and heat tracing
- HSX-1: done with insulation and heat tracing

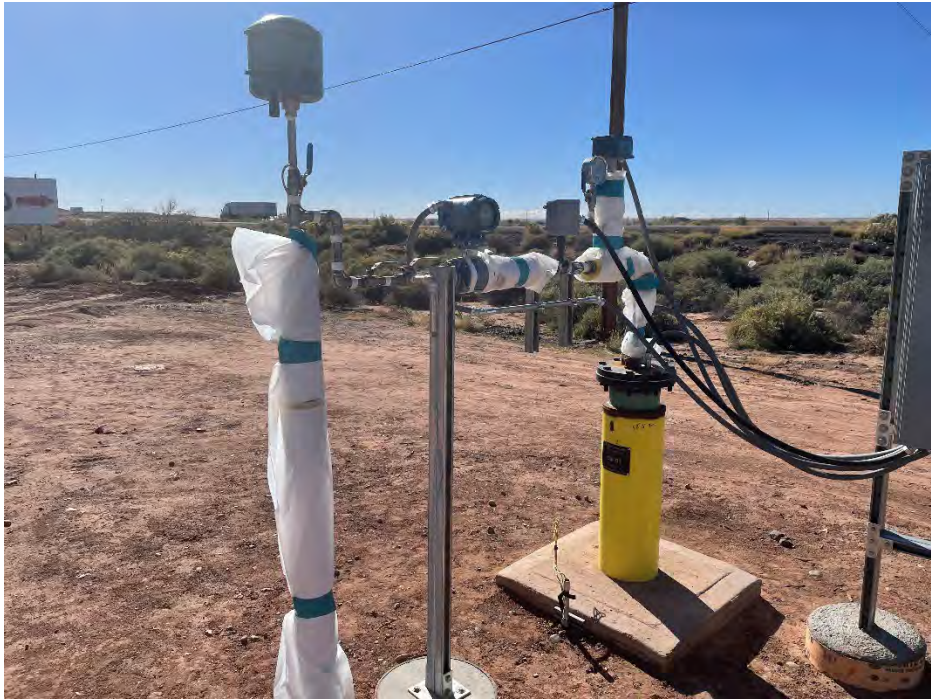
Questions

- NONE

RFIs

- NONE

Photos:



Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

November 16, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quentin
- Mountain West: Milo

Activities

- Met with Milo to walk through the startup and commissioning plan documents
 - Wells are not ready for commissioning
- Noticed leaks at ARVs on wells
 - EW-01 and EW-03 leaking the most
 - Will attach hoses to route water away from well/footings
 - Will remove the insulation and redo it

Field Notes

- Fencing still hasn't started
- EW-01: leaking at ARV
- EW-03: leaking at ARV
- GSX-3: leaking at
- Hunt/Geronimo combined flowmeter: ARV leaking and was in off position
- Hunt flowmeter: ARV leaking and was in off position
- Will install concrete collar around the valve caps at EW-01, EW-02, and EW-03 to protect from vehicles
- Will fill in the fenced areas with gravel

Questions

- NONE

RFIs

- Allied will be submitting an RFI to install a vertical check valve to fix ARV leakage
 - Not 100% sure this is what will fix this

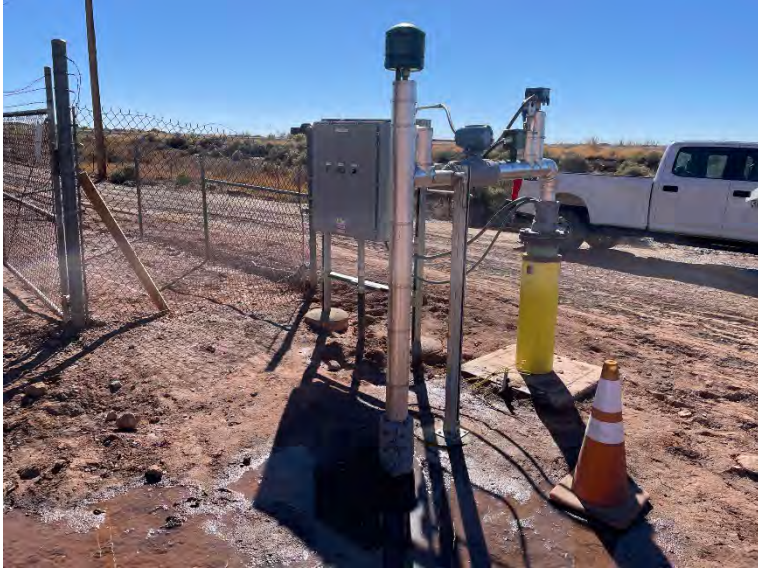
Photos:



EW-01 leaking



Valve cap/boxes that will need concrete collars



Leaking at EW-03



Leaking at GSX-3

Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

November 17, 2022

People Onsite:

- Wood: Darren Mack, Doug Fisher, Andrea Kagie-Kay, John Epsta, Brad, Leo
- APS: Pamela Norris, Cody Miller, Caleb, and Jeremy
- Allied: Quentin
- Mountain West: Milo

Activities

- Met with APS personnel, walked through the BAP areas to inspect existing conditions
- Walked through Geronimo wells to see electrical panels and wells status
- Opened the ARVs at Hunt flowmeter, EW-01 and EW-03
 - Hunt flowmeter was not dirty, perhaps float was set off, no longer leaking
 - EW-01 had HDPE filings packed into the ARV, cleaned it out and reset the float, no longer leaking
 - EW-03 also had HDPE filings as well as mud, cleaned out and no longer leaking
 - Allied is to open the remaining ARVs and inspect, and clear out the lines of any debris
- Removed the insulation at GSX-3 to find where the leak was coming from
 - Leak was at the union, tightened the union and no longer leaking

Field Notes

- Fencing still hasn't started
- EW-01 and EW-03 were not leaking once cleaned out and opened
- GSX-3 was not leaking after tightening the union in the piping

Questions

- NONE

RFIs

- Allied will be submitting an RFI to install a vertical check valve to fix ARV leakage

Photos:



ARV at EW-01



cleaned out ARV



ARV at EW-03

Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

December 07, 2022 & December 8, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quentin
- Mountain West: Milo

Activities

- Met with Milo to do a final walk down of the equipment to ensure all punch list items were resolved
- Working on commissioning documents
- Went through flowmeter totalizers and pump run times

Field Notes

- Fencing still hasn't started (12/13)
- Hunt-A ARV leaking steady water
 - Allied to remove insulation, clean out ARV, and replace insulation
- Allied to start working on grading and restoring the site to prior conditions
- Outstanding punch list items are fencing, gravel inside the fenced areas, replacing all paper manuals that were destroyed by sun, hoods for control panels, and fix painting of equipment
- WSP/APS haven't seen the soil compaction/testing results, Allied to share the data for final commissioning report
- Final walk thought likely second week of January (1/11 or 1/12)

EQUIPMENT	DEPTH (FT)	RUN TIME (HR)	FLOW TOTAL (GAL)
EW-01	22.5	327	18,531
EW-02	17.6	271	44,831
GSX-4	.6	530	152,383
EW-03	18.5	485	59,650
GSX-3	.3	104	22,381
GSX-1R	18.3	625	15,939
EW-04	17.4	528	40,267
HUNT-A	1.0	246	10,909
HSX-A	36.6	672	83,941
HUNT FLOWMETER			463,283
COMBINED FLOWMETER			95,780

Questions

- NONE

RFIs

- NONE

Photos:



EW-01 final insulation



hunt flowmeter



plugs on sound tubes

Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

December 22, 2022

People Onsite:

- Wood: Darren Mack
- Allied: Quentin

Activities

- Met with Quentin to do last walk through of control panels and well settings/controls to complete commissioning documents
- Went through punch list items that have been completed and the ones that are still outstanding

Field Notes

- Fencing started; posts are all set – working on chain link on Geronimo side
 - Should be completed by end of next week
 - Allied wasn't aware of the vehicle gates on BAP side, showed him TWX fencing document to show what was expected to be done
- ARVs are needed to be cleaned out periodically due to debris from pumped water
 - Not sure if this is a design flaw or if the water is dirtier than expected but this should be part of O&M
 - Allied to remove insulation, clean out ARV, and replace insulation
- Grading of site and gravel placed, there will be another batch of gravel down to complete the road
- For the existing monitoring wells, the gravel will be raked away from the covers to keep them exposed so they will not be lost
- Outstanding punch list items are fencing, replacing all paper manuals that were destroyed by sun, hoods/covers for control panels, and suspending the cables at GSX-3 so they are not resting on the sump cover
- Final walk through/APS turnover likely second week of January (1/11 or 1/12) – Milo to schedule once he approves the completion of punch list items

Future Design Items

- Include covers, hoods on the control panels
- Different ARV to avoid the debris/leaking issues
- Include a check valve or ball valve on vertical of wells so they can isolate system in case of maintenance on ARV
- Make the entire system either flanged or welded, not back and forth. Will make easier for construction

Questions

- NONE

RFIs

- NONE

Photos:





Fly Ash Pond Seepage Interception System

CHOLLA Generating Station

Wells Pump Installation-APS Contract CHC08903

Field Visit Notes

January 18, 2023

People Onsite:

- WSP: Darren Mack
- Allied: Quentin
- APS: Kurt Adams, Cody Miller
- Mountain West: Milo Nicholson

Activities

- Final walkdown with Allied and APS personnel
- Construction/labor signed off on – Allied has until 2/6/23 to get all documentation done

Future Design Items (BAP)

- Include covers, hoods on the control panels to protect from UV
 - Make control panels face north
- Different ARV to avoid the debris/leaking issues
- Include a check valve or ball valve on vertical of wells so they can isolate system in case of maintenance on ARV
- Don't reuse old material (control panel supports), try to make all new material to not mix old with new
- Pipe supports to support below pipe, can use a U-clamp so insulation will no on better
- Insulation to be called out to be done like final FAP wells
- Control panels were properly sized, may need to be larger if there is a SCADA system that automates readings
- Specs to include gravel inside of the fenced areas, concrete collards around T-boxes, existing well caps, etc.
- All concrete to be domed, no flat concrete to be spec'd
- Reference all RFI's from FAP project and use in specs to eliminate future back and forth
- Include a thermostat with light for heat tracing

Questions

- NONE

RFIs

- NONE

Photos:

See project folder for final photos

APPENDIX

C

CONSTRUCTION
PHOTOGRAPHS





Figure 1: Existing Seepage Trench Crossing



Figure 2: Unknown Monitoring Well discovered during trench excavation

Photograph Log



Figure 3: Flooded Trench looking east towards EW-04

Photograph Log



Figure 4: EW-01 piping, No Insulation

Photograph Log



Figure 5: EW-02 piping, No Insulation

Photograph Log



Figure 6: EW-03 piping, No Insulation

Photograph Log



Figure 7: EW-04 piping, Some Insulation

Photograph Log



Figure 8: Combined Meter No Insulation

Photograph Log



Figure 9: Hunt flow meter No Insulation

Photograph Log



Figure 10: EW-01 completed

Photograph Log



Figure 11: EW-02 completed

Photograph Log



Figure 12: EW-03 completed

Photograph Log



Figure 13: EW-04 completed

Photograph Log



Figure 14: GSX-1R completed

Photograph Log



Figure 15: GSX-3, picture at only scale we have.

Photograph Log



Figure 16: GSX-4 completed

Photograph Log



Figure 17: Combined Hunt-Geronimo Flowmeter completed

Photograph Log



Figure 18: Hunt Flowmeter completed

Photograph Log



Figure 19: HUNT-A completed

Photograph Log



Figure 20: HSX-1 completed

Photograph Log



Figure 21: GSX-4 AND EW-02 PANELS



Figure 22: EW-01 FENCING

Photograph Log



Figure 23: Geronimo Gravel looking east

Photograph Log



Figure 24: Final Gravel Road at Geronimo looking west

APPENDIX

D TESTING RESULTS



Physical Properties of Soils and Aggregates

Client: J4 Excavating
 Sterling Thomas
 49821 N. Hwy 188
 Payson, Arizona 85541

Project No. 222231TS
 Lab No. 680620
 Field No. 680620
 Report Date: 10/17/2022

Project: FAP Seepage Project

Location: Cholla Power Plant, Joseph City, Arizona

Material: Silty Sandy Clay with Trace Gravel

Sampled By: DTL

Date: 10/11/2022

Source: Native

Submitted By: DTL

Date: 10/11/2022

Supplier: N/A

Authorized By: Client

Date: 10/11/2022

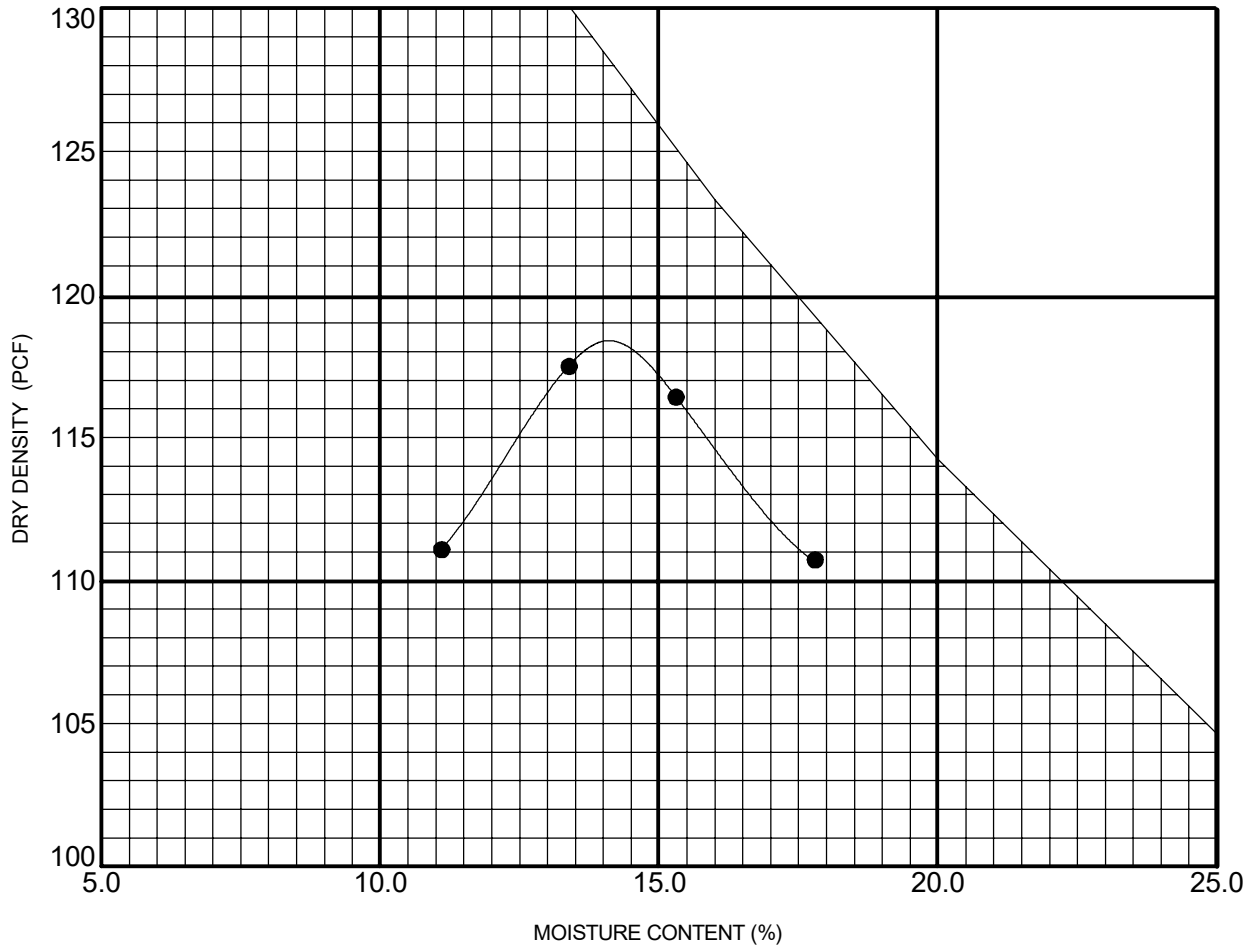
Sample Location: Spoil Piles at Water Line Trench

Remarks:

ASTM D698 Method A

MAXIMUM DRY DENSITY: **118.4 PCF**

OPTIMUM MOISTURE CONTENT: **14.1%**



FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 11, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: D. Luper

Client: J4 Excavating

Serial Number: 26212

Contractor: J4 Excavating

Person Notified: Contractor/QA

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	10-O	30' W of EW-04	FS	680620	0	14.1	118.4	139.1	11.9	124.3	105	95	PASS
2	14-O	22' W of EW-04	FS	680620	0	14.1	118.4	137.7	11.8	123.2	104	95	PASS
3	10-O	18' E of EW-03	FS	680620	0	14.1	118.4	137	12.6	121.7	103	95	PASS
4	14-O	24' E of EW-03	FS	680620	0	14.1	118.4	135.8	13.7	119.4	101	95	PASS
5	10-O	4' W of Riser GSX3	FS -2'	680620	0	14.1	118.4	134.1	10.7	121.1	102	95	PASS
6	10-O	18' N of EW-03	FS -3.5'	680620	0	14.1	118.4	137.1	11.3	123.2	104	95	PASS
7	10-O	30' N of EW-02	FS -4.5'	680620	0	14.1	118.4	134.2	13.5	118.2	100	95	PASS
8	14-O	16' N of EW-01	FS	680620	0	14.1	118.4	134.9	10.1	121.6	103	95	PASS

Remarks:

TASK			
Elevation	Test Area	Test Element	
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk
FG-Finished Grade		3-Driveway	10-Water Line Trench
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench
SL-Spring Line		7-Apron	14-Electric Conduit Trench
		15-Irrigation Trench	
		16-Gas trench	
		17-Retaining Wall Backfill	
		18-RCBC	
		19-Other Trench	
		A-Foundation Over Ex Backfill	H-Underslab Base Course
		B-Subgrade Prep	I-Pavement Agg. Base Course
		C-Engineered Fill	J-AC Pavement-Base Lift
		D-Structural Backfill	K-AC Pavement-Intermed Lift
		E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift
		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding
		G-Select Cap	N-Pipe Line/Conduit Shading
			O-Trench Backfill
			P-Embankment

* = Rock Corrected Value

FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 11, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: D. Luper

Client: J4 Excavating

Serial Number: 26212

Contractor: J4 Excavating

Person Notified: Contractor/QA

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	14-O	12' N of EW-01 (Trans Line)	FS	680620	0	14.1	118.4	134	10.1	121.6	103	95	PASS

Remarks:

TASK			
Elevation	Test Area	Test Element	
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk
FG-Finished Grade		3-Driveway	10-Water Line Trench
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench
SL-Spring Line		7-Apron	14-Electric Conduit Trench
		15-Irrigation Trench	16-Gas trench
		17-Retaining Wall Backfill	18-RCBC
		19-Other Trench	
		A-Foundation Over Ex Backfill	H-Underslab Base Course
		B-Subgrade Prep	I-Pavement Agg. Base Course
		C-Engineered Fill	J-AC Pavement-Base Lift
		D-Structural Backfill	K-AC Pavement-Intermed Lift
		E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift
		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding
		G-Select Cap	N-Pipe Line/Conduit Shading
			O-Trench Backfill
			P-Embankment

* = Rock Corrected Value

FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 12, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: D. Flint

Client: J4 Excavating

Serial Number: 30896

Contractor: J4 Excavating

Person Notified: Joe Brown

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	10-O	35' E of CP-EW-01	FS -4'	680620	0	14.1	118.4	126.5	12.8	112.1	95	95	PASS
2	10-O	25' E of EW-02	FS -4'	680620	0	14.1	118.4	129.5	11.2	116.4	98	95	PASS
3	10-O	20' E of EW-03	FS -4'	680620	0	14.1	118.4	126.3	11.3	113.2	96	95	PASS
4	10-O	21' E/7' S of F-111R	FS -1'	680620	0	14.1	118.4	128.4	11.1	115.6	98	95	PASS
5	10-O	6' N of GSX-1R	FS -1'	680620	0	14.1	118.4	130.1	11.5	116.7	99	95	PASS

Remarks: Test 1-3, 5: Alluvium Extraction Well
 Test 4: Moenkopi-Moqui Piezometer Well

TASK			
Elevation	Test Area	Test Element	
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk
FG-Finished Grade		3-Driveway	10-Water Line Trench
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench
SL-Spring Line		7-Apron	14-Electric Conduit Trench
		15-Irrigation Trench	
		16-Gas trench	
		17-Retaining Wall Backfill	
		18-RCBC	
		19-Other Trench	
		A-Foundation Over Ex Backfill	H-Underslab Base Course
		B-Subgrade Prep	I-Pavement Agg. Base Course
		C-Engineered Fill	J-AC Pavement-Base Lift
		D-Structural Backfill	K-AC Pavement-Intermed Lift
		E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift
		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding
		G-Select Cap	N-Pipe Line/Conduit Shading
			O-Trench Backfill
			P-Embankment

* = Rock Corrected Value

FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 13, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: D. Luper

Client: J4 Excavating

Serial Number: 26212

Contractor: J4 Excavating

Person Notified: Joe Brown

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	10-O	3' E of Riser - N of EW-03	FS -2'	680620	0	14.1	118.4	137.9	12	123.1	104	95	PASS
2	10-O	2' S of Riser - N of EW-02	FS -3'	680620	0	14.1	118.4	136.7	12.1	121.9	103	95	PASS
3	10-O	5' E of Riser - N of EW-01	FS -2.5'	680620	0	14.1	118.4	135.2	11.3	121.5	103	95	PASS
4	10-O	2' N of Riser - N of F-111R	FS -1.5'	680620	0	14.1	118.4	136.8	11.3	123	104	95	PASS
5	10-O	4' W of Riser - N of EW-03	FS -1'	680620	0	14.1	118.4	137.2	11.4	123.2	104	95	PASS
6	10-O	3' W of Riser - N of EW-02	FS -2'	680620	0	14.1	118.4	133.7	11.1	120.3	102	95	PASS
7	10-O	3' S of Riser - N of EW-03	FS -1'	680620	0	14.1	118.4	139.5	12	124.6	105	95	PASS
8	10-O	4' E of Riser - N of EW-02	FS -1'	680620	0	14.1	118.4	132.9	12.4	118.3	100	95	PASS

Remarks:

TASK							
Elevation	Test Area			Test Element			
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter	15-Irrigation Trench	A-Foundation Over Ex Backfill	H-Underslab Base Course	O-Trench Backfill
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk	16-Gas trench	B-Subgrade Prep	I-Pavement Agg. Base Course	P-Embankment
FG-Finished Grade		3-Driveway	10-Water Line Trench	17-Retaining Wall Backfill	C-Engineered Fill	J-AC Pavement-Base Lift	
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench	18-RCBC	D-Structural Backfill	K-AC Pavement-Intermed Lift	
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench	19-Other Trench	E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift	
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding	
SL-Spring Line		7-Apron	14-Electric Conduit Trench		G-Select Cap	N-Pipe Line/Conduit Shading	

* = Rock Corrected Value

FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 17, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: G. Rowley

Client: J4 Excavating

Serial Number: 18728

Contractor: J4 Excavating

Person Notified: Joe Brown

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	10-O	8' N of EW-02	FS	680620	0	14.1	118.4	129.5	13.5	114.1	96	95	PASS
2	10-O	30' N of EW-01	FS	680620	0	14.1	118.4	132.1	13.5	116.4	98	95	PASS

Remarks: Test 1-2: Alluvium Extraction Well

TASK													
Elevation		Test Area				Test Element							
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter	15-Irrigation Trench	A-Foundation Over Ex Backfill	H-Underslab Base Course	O-Trench Backfill						
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk	16-Gas trench	B-Subgrade Prep	I-Pavement Agg. Base Course	P-Embankment						
FG-Finished Grade		3-Driveway	10-Water Line Trench	17-Retaining Wall Backfill	C-Engineered Fill	J-AC Pavement-Base Lift							
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench	18-RCBC	D-Structural Backfill	K-AC Pavement-Intermed Lift							
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench	19-Other Trench	E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift							
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding							
SL-Spring Line		7-Apron	14-Electric Conduit Trench		G-Select Cap	N-Pipe Line/Conduit Shading							

* = Rock Corrected Value

FIELD DENSITY TEST DAILY REPORT

Project: FAP Seepage Project

Project Number: 222231TS

Date: October 18, 2022

Location: Cholla Power Plant, Joseph City, AZ

Technician: D. Luper

Client: J4 Excavating

Serial Number: 26212

Contractor: J4 Excavating

Person Notified: Contractor

Test	Task	Test Location	Elevation	Material	% Rock	Optimum Moisture *	Maximum Dry Density *	Wet Density	% Moisture	Dry Density	% Comp.	Required Comp.	Test Results
1	10-O	2' S of HSX-1	FS -2.5'	680620	0	14.1	118.4	134.4	14.8	117.1	99	95	PASS
2	10-O	2' N of HSX-1	FS -1'	680620	0	14.1	118.4	129.9	11.6	116.4	98	95	PASS
3	10-O	2' W of HSX-1	FS	680620	0	14.1	118.4	132.9	12.1	118.5	100	95	PASS
4	10-O	3' N of HSX-2	FS -3'	680620	0	14.1	118.4	127.9	12.5	113.7	96	95	PASS
5	10-O	2' S of HSX-2	FS -1.5'	680620	0	14.1	118.4	136.1	11.1	122.5	103	95	PASS
6	10-O	3' W of HSX 3	FS	680620	0	14.1	118.4	134.5	13.6	118.5	100	95	PASS

Remarks: All tests performed south of I-40.

TASK							
Elevation	Test Area	TASK		Test Element			
FB-Bottom of Footing	FF-Finished Floor	1-Building Pad	8-Curb/Gutter	15-Irrigation Trench	A-Foundation Over Ex Backfill	H-Underslab Base Course	O-Trench Backfill
FS-Finished Subgrade		2-Parking Lot	9-Sidewalk	16-Gas trench	B-Subgrade Prep	I-Pavement Agg. Base Course	P-Embankment
FG-Finished Grade		3-Driveway	10-Water Line Trench	17-Retaining Wall Backfill	C-Engineered Fill	J-AC Pavement-Base Lift	
FP-Finished Pavement		4-Landscape Area	11-Fire Line Trench	18-RCBC	D-Structural Backfill	K-AC Pavement-Intermed Lift	
BOP-Bottom of Pipe		5-Transformer Pad	12-Sanitary Sewer Trench	19-Other Trench	E-Lime Stabilized Subgrade	L-AC Pavement-Surface Lift	
TOP-Top of Pipe		6-Roadway	13-Storm Sewer Trench		F-Non/Low Expansion Cap	M-Pipe Line/Conduit Bedding	
SL-Spring Line		7-Apron	14-Electric Conduit Trench		G-Select Cap	N-Pipe Line/Conduit Shading	

* = Rock Corrected Value

APPENDIX

E

START UP &
COMMISSIONING





STARTUP AND
COMMISSIONING PLAN
APS FAP SEEPAGE
INTERCEPT SYSTEM
EXTRACTION WELL
PUMP INSTALLATION
JOSEPH CITY, ARIZONA
ARIZONA PUBLIC SERVICE COMPANY

PROJECT NO.: 14-2021-2034
DATE: OCTOBER 28, 2022

WSP USA ENVIRONMENT & INFRASTRUCTURE INC.
4600 EAST WASHINGTON STREET, SUITE 600
PHOENIX, ARIZONA 85034

T: +1 602-733-6000

WSP.COM



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1 GENERAL SITE INFORMATION

Equip two new wells (CM-01 and CM-02) with pumps, flow regulators, flow meters, valves, piping, and all required electrical and instrumentation. Build piping system to take extracted water to Sump 10 through a common header pipe that discharges into a discharge trench for an onsite blow-down operation. The trench discharges into Sump 10.

OWNER:

Arizona Public Service Company (APS)
400 North 5th Street
Phoenix AZ, 85004

ENGINEER:

WSP USA
4600 East Washington Street, Suite 600
Phoenix, Arizona, 85034
Maren Henley, Project Manager
(602) 733-6140
maren.henley@wsp.com

CONTRACTOR:

Allied Power
400 Convention Street, Suite 320
Baton Rouge, LA 70802

ONSITE CONSTRUCTION OVERSIGHT:

Terry Stewart, Steven (Milo) Nicholson
Mountain West Contracting through APS
Farmington, NM 87401
602-319-0279
Terry.stewart@aps.com, steven.nicholson@aps.com

Completion Date: November 2022 (expected)

2 PROJECT TEAM

2.1 ALLIED

- Edwin (Dave) Bitner, Project Manager, edwin.bittner@aps.com
 - Jess Edmenson, Project Superintendent, jedmenson@alliedpwr.com
 - JBar4 subcontractor for piping and civil
-

2.2 WSP

- Maren Henley, Project Manager
 - Becky Weaver, Project Engineering Oversight, Civil, Mechanical
 - Andrea Kagie-Hay, Certifying Engineer, Civil, Mechanical
 - Brad Rohwer, Design Engineer, Electrical
 - Jeff Jorgensen, Certifying Engineer, Electrical
 - Darren Mack, Field Engineering Oversight
-

2.3 APS

- Byron Conrad, Project Manager (retired September 2022)
- Kurt Adams, Project Manager
- Natalie Chrisman-Lazarr, Environmental Engineer
- Ray Markley, Geotechnical Engineer

3 COMMISSIONING PROCESS

The commissioning process for this project has a number of steps to follow and inspect to ensure that each component of this system is working properly. The pump electrical components and configuration should be checked for proper working setup for each well. The piping and well components and appurtenances should be checked prior to operating the pumps. Once the pumps have been set to design working conditions and the electrical components are working as designed, the operation of the entire system should be evaluated to ensure it is operating in compliance with the project goals. Refer to the Operations and Maintenance Manual for details on the model types, operation, and settings for each component.

4 EQUIPMENT STARTUP CHECKLISTS

The following items should be completed as part of project commissioning and start-up. Contractor is responsible to coordinate with the APS Staff and the Manufacturer to ensure proper start-up and testing are performed per the specifications and per Manufacturer requirements. In addition, the Contractor is responsible to ensure all auxiliary components are functioning properly through installation and start-up procedures.

4.1 ELECTRICAL COMPONENTS

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
EW-01	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
EW-02	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
EW-03	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Quentin Scott (Allied Power) Circuit breaker inspected with no issues found
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
EW-04	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
GSX-1R	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
GSX-3	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
GSX-4	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
HSX-1	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac
Hunt-A	Visual and mechanical inspection of fusible disconnect switch	12/1/22 Circuit breaker inspected without issue
	Visual and mechanical inspection of control panel and components	12/1/22 Control panel inspected without issue
	Panel Power supply function test	L1 & L2 to ground - 123vac L1 to L2 - 247vac

4.2 PIPING/TRENCH/FENCE COMPONENTS

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
Geronimo Piping	Piping Installation (materials and size)	HDPE - 2" / PVC 1" (GSX-4)
	HDPE Joints and fusion checked? Per ASTM F2620 standards	12/1/22 Verified followed
	Bury depth adequate?	12/1/22 Verified met project directives
	Tracer wire and underground warning tape installed. Tracer wire tested?	12/1/22 Verified complete
	Air and vacuum release valves on high spots?	12/1/22 Verified met project design
	Above ground piping insulated?	12/5/22 Verified complete
	Leak testing performed?	12/1/22 Verified complete
Geronimo Trenching	Trenching backfill gradation and plasticity index test per 1000 cubic yards or soil type received?	12/1/22 Complete (test results furnished)
	Compaction tests per 100 cubic yards or three tests per shift results received and are acceptable?	12/1/22 Complete (test results furnished)
	Excavation returned to original condition?	12/1/22 In progress
	Road crossings repaired to original surface?	

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
Geronimo Fencing	EW-01: Installed to specification, grounded, out of traffic?	12/8/22 Not complete
	EW-02: Installed to specification, grounded, out of traffic?	12/8/22 Not complete
	GSX-4: repaired to specification, grounded, out of traffic?	12/8/22 Not complete
	EW-03, GSX-1R, GSX-03 Area: repaired to specification, grounded, out of traffic, drive through gates operational and all components accessible around gates?	12/8/22 Not complete
	EW-04: Installed to specification, grounded, out of traffic?	12/8/22 Not complete
Hunt Piping	Piping Installation (materials and size)	HDPE - 2"
	Joints and fusion checked? Per ASTM F2620 standards	12/1/22 Verified followed
	Bury depth adequate?	12/1/22 Verified met project directives
	Tracer wire and underground warning tape installed. Tracer wire tested?	12/1/22 Verified complete
	Air and vacuum release valves on high spots?	12/1/22 Verified complete
	Above ground piping insulated?	12/1/22 Verified complete
	Leak testing performed?	12/1/22 Verified complete
Hunt Trenching	Trenching backfill gradation and plasticity index test per 1000 cubic yards or soil type received?	12/1/22 Complete (test results furnished)
	Compaction tests per 100 cubic yards or three tests per shift results received and are acceptable?	12/1/22 Complete (test results furnished)
	Excavation returned to original condition?	12/1/22 In progress
Hunt Fencing	HSX-01: repaired to specification, grounded, out of traffic?	12/1/22 Not complete
TWX Area Fencing	Repaired to specification?	12/1/22 Not complete

4.3 PUMPS & APPURTENANCES

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
EW-01 Appurtenances	Pump Grundfos SQ pump w/ ½-hp motor capable of 1.5 gpm average	12/1/22 Verified project gpm average
	Pump shroud installed?	10/4/22 Verified complete
	Pump depth set: 53' specified	12/1/22 52' 10"
	Pressure transducer set depth: 49.2' specified	12/1/22 49' 10"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Level indicator settings adjustment to field conditions	11/30/22 Verified correct
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 1.5, 1.0, 0.75 gpm	12/1/22 Verified 1.0 gpm
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
Pressure gauge and switch assembly functioning?	12/1/22 Verified complete	

EW-02 Appurtenances	Pump Grundfos SQ pump w/ ½-hp motor capable of 5 gpm average	12/1/22 Verified project gpm average
	Pump depth set: 51' specified	12/1/22 52'
	Pressure transducer set depth: 47.2' specified	12/1/22 49'
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Level indicator settings adjustment to field conditions	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 5.0, 4.0, 3.0 gpm	12/1/22 Verified 4.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
	Pressure gauge and switch assembly functioning?	12/1/22 Verified complete

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
EW-03 Appurtenances	Pump Grundfos SQ pump w/ ½-hp motor capable of 5 gpm average	12/1/22 Verified project gpm average
	Pump depth set: 50' specified	12/1/22 49'
	Pressure transducer set depth: 46.2' specified	12/1/22 46'
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Level indicator settings adjustment to field conditions	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 5.0, 4.0, 3.0 gpm	12/1/22 Verified 4.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
Pressure gauge and switch assembly functioning?	12/1/22 Verified complete	

EW-04 Appurtenances	Pump Grundfos SQ pump w/ ½-hp motor capable of 2.5 gpm average	12/1/22 Verified project gpm average
	Pump depth set: 22' specified	12/1/22 22' 2"
	Pressure transducer set depth: 18.2 specified	12/1/22 19' 2"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Level indicator settings adjustment to field conditions	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 2.0, 1.5, 1.0 gpm	12/1/22 Verified 1.5 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
Pressure gauge and switch assembly functioning?	12/1/22 Verified complete	

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
GSX-1R Appurtenances	Pump Grundfos SQ pump w/ ½-hp motor capable of 0.75 gpm average	12/1/22 Verified project gpm average
	Pump depth set: 52' specified	12/1/22 50' 10"
	Pressure transducer set depth: 48.2' specified	12/1/22 47' 10"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Level indicator settings adjustment to field conditions	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 1.0, 0.75, 0.5 gpm	12/1/22 Verified .75 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
Pressure gauge and switch assembly functioning?	12/1/22 Verified complete	

GSX-3 Appurtenances	Pressure transducer set depth: 8' specified	12/13/22 Verified 9' 8"
	Existing Pump operational	12/1/22 Verified operational
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 20, 25 gpm	12/1/22 Verified 25.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
	Pressure gauge and switch assembly functioning?	12/1/22 Verified complete

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
GSX-4 Appurtenances	Pressure transducer set depth: 8' specified	12/13/22 Verified 11' 10"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Pump operational?	12/1/22 Verified operational
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 20, 25 gpm	12/1/22 Verified 25.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
	Pressure gauge and switch assembly functioning?	12/1/22 Verified complete

HSX-1 Appurtenances	Pressure transducer set depth: 41.2 specified	12/1/22 Verified 41' 2"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 10.0, 11.0, 12.0 gpm	12/1/22 Verified 11.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
	Pressure gauge and switch assembly functioning?	12/1/22 Verified complete

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
Hunt-A Appurtenances	Pressure transducer set depth: 7' specified	12/13/22 Verified 5' 6"
	Pressure transducer 4-20 mA / span settings checked	11/30/22 Verified correct
	Flowmeter installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed correct direction?	12/1/22 Verified correct flow direction
	Flow regulator valve installed flow rating: 15, 20 gpm	12/1/22 Verified 20.0 gpm
	3-way ball valve function	12/1/22 Verified without issue
	Start-up position straight flow-through position	12/1/22 Verified without issue
	90-degree sampling position works	12/1/22 Verified without issue
	Isolation ball valve exercised	12/1/22 Complete
	Air/vacuum valve w/ isolation ball valve exercised	12/1/22 Complete
	Insulation and heat trace installed	12/1/22 Verified complete
	Pressure gauge and switch assembly functioning?	12/1/22 Verified complete

4.4 PUMP START-UP AND TESTING

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA
EW-01 Pump	Power Supply Working?	12/1/22 Verified without issue
	Pump Controller on/off works?	12/1/22 Verified without issue
	Manual speed control dials calibrated	NA
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue
	Pump on/off relay levels set	Pump On: 25 ft BGS Pump Off: 49' 4 ft BGS
	Pump on/off relay functions?	12/1/22 Verified without issue
	Pump interlock/delay timer setpoint	12/1/22 Verified without issue
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue
	Pump tested at several speeds	Speed NA Flow Rate NA
Final Pump speed setting:	NA	

ITEM	DESCRIPTION	DATE CHECKED/ RESULTS/NOTES/NA		
EW-02 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 25 ft BGS	Pump Off: 48' 6" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

EW-03 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 20 ft BGS	Pump Off: 45' 6" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

EW-04 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 15 ft BGS	Pump Off: 18' 8" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

GSX-1R Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 20 ft BGS	Pump Off: 47' 4" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

GSX-3 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 8' 8" ft BGS	Pump Off: 9' 7" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

GSX-4 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 10' 10" ft BGS	Pump Off: 11' 9" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

HSX-1 Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 35 ft BGS	Pump Off: 40' 8" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

Hunt-A Pump	Power Supply Working?	12/1/22 Verified without issue		
	Pump Controller on/off works?	12/1/22 Verified without issue		
	Manual speed control dials calibrated	NA		
	Level indicator settings adjustment to field conditions	12/1/22 Verified without issue		
	Pump on/off relay levels set	Pump On: 4' 6" ft BGS	Pump Off: 5' 5" ft BGS	
	Pump on/off relay functions?	12/1/22 Verified without issue		
	Pump interlock/delay timer setpoint	NA		
	Flow regulator valve appropriate to well output?	12/1/22 Verified without issue		
	Pump speed tested at several speeds	Speed	NA	Flow Rate NA
Final Pump speed setting:	NA			

**CHC08903 Fly Ash Seep project
Punch List of Incomplete Items**

Item #	Item Name	Item Description	Spec Sections or Drawing Number	Created By	Creation Date	Assigned To	Complete Date	Status
1	Geronimo side	Various condulets need covers and gaskets		DB	11/13/22	Allied	11/30/22	Complete
2	PDP 24A12	Main breaker need cover blank installed		DB	11/13/22	Allied	12/1/22	Complete
3	Hunt A	Install ground wire - unistrut to panel		QS	11/13/22	Allied	12/1/22	Complete
4	HSX-1	Install ground wire - unistrut to panel		QS	11/13/22	Allied	12/1/22	Complete
5	EW-1	Install ground rod & wiring		QS	11/13/22	Allied	12/5/22	Complete
6	PDP 24A12	Label breakers		DB	11/13/22	Allied	11/30/22	Complete
7	Pump pressure switches	Set all pump discharge pressure switches to N.O at 100psi		QS/DB	11/13/22	Allied	11/30/22	Complete
8	Hunt A	Reroute heat trace under insulation blanket		QS	11/13/22	Allied	11/30/22	Complete
9	Above ground piping insulation	Revise top insulation cones (standardize)		MWC	11/30/22	Argus	12/1/22	Complete
10	Above ground piping insulation	Use 90 degree installations where available		MWC	11/30/22	Argus	12/1/22	Complete
11	Above ground piping insulation	Revise installation where in contact with unistrut		MWC	11/30/22	Argus	12/1/22	Complete
12	Panel electrical receptacles	Check plugs for wiring integrity and polarity		MWC	11/30/22	Allied	12/1/22	Complete
13	Above ground piping insulation	Install insulated blankets on valves, mag flows, ARV, etc.		MWC	11/30/22	Argus	12/1/22	Complete
14	Pump controls panels	Remove/replace paper manuals		MWC	11/30/22	Allied	12/1/22	Complete
15	Well sounding tubes	Install pipe caps on each well sounding tube port		MWC	11/30/22	Allied	11/29/22	Complete
16	Magnetic flowmeters	Verify grounding rings necessity with manufacturer (Rosemount)		MWC	11/30/22	Allied	12/5/22	Complete
17	Well casings	Paint above ground well casings including extensions		MWC	11/28/22	Allied	12/1/22	Complete
18	Common header valves	Protect and identify (3) underground valve boxes		WPS	11/30/22	Allied	12/1/22	Complete
19	Grade project area	Grade out ruts in pump areas & roadway		Allied	12/5/22	JBar4	12/16/22	Complete
20	Install fencing	Install individual pump enclosure fencing		Allied	Scope	JBar4	12/16/22	Complete
21	Flowmeter supports	Install pipe supports on Hunt & Combined flowmeter piping		Allied	Scope	Allied	12/1/22	Complete
22	Insulate flowmeter piping	Insulate with metal piping on Hunt & Combine flowmeter piping		WPS	11/28/22	Argus	12/1/22	Complete
23	Above ground piping	Perform blowdown of all piping and devices (remove debris)		Allied	Scope	Allied	12/1/22	Complete
24	WPS Startup & Comm plan	Complete WPS Startup & Commissioning document		WPS	Scope	Allied	12/13/22	Complete
25	GSX4 sealtite	Support sealtite and remove from well casing		MWC	11/30/22	Allied	12/19/22	Complete
26	Control panel hoods	Fabricate/Purchase cover/shield for panel door instrumentation		MWC	11/30/22	Allied	TBD	In Progress
27	Hunt side labels	Hunt A and HSX-1 PDP and pull boxes labels		MWC	12/12/22	Allied	12/14/22	Complete
28	Hunt A ARV leaking	Remove and clean debris		MWC	12/12/22	Allied	12/19/22	Complete
29	Combined flowmeter ARV leaking	Remove and clean debris		MWC	12/12/22	Allied	12/19/22	Complete
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CHC08903 Fly Ash Seep project
Punch List of Incomplete Items

Item #	Item Name	Item Description	Spec Sections or Drawing Number	Created By	Creation Date	Assigned To	Complete Date	Status
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CHC08903 Fly Ash Seep project
Punch List of Incomplete Items

Item #	Item Name	Item Description	Spec Sections or Drawing Number	Created By	Creation Date	Assigned To	Complete Date	Status
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**CHC08903 Fly Ash Seep project
Punch List of Incomplete Items**

Item #	Item Name	Item Description	Spec Sections or Drawing Number	Created By	Creation Date	Assigned To	Complete Date	Status
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**CHC08903 Fly Ash Seep project
Punch List of Incomplete Items**

Item #	Item Name	Item Description	Spec Sections or Drawing Number	Created By	Creation Date	Assigned To	Complete Date	Status
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Well #	Type	Well depth information		Pump depth	Level transmitter depth	Pump On depth	Pump Off depth	Pressure switch setting
		Drawing depth	Actual depth					
EW-1	well	55'	58' 2"	56' 4"	49' 10" BGS	25' BGS / 10 mA	49' 4" BGS / 4.2 mA	NC - open at 100psi
EW-2	well	53'	57' 4"	55' 6"	49' BGS	25' BGS / 10 mA	48' 6" BGS / 4.2 mA	NC - open at 100psi
EW-3	well	52'	54' 4"	52' 6"	46' BGS	20' BGS / 9 mA	45' 6" BGS / 4.2 mA	NC - open at 100psi
EW-4	well	24'	27' 6"	25' 8"	19' 2" BGS	15' BGS / 7.5 mA	18' 8" BGS / 4.2 mA	NC - open at 100psi
GSX-1R	well	54'	56' 2"	54' 4"	47' 10" BGS	20' BGS / 9 mA	47' 4" BGS / 4.2 mA	NC - open at 100psi
GSX-3	sump	10' 6"	11' 2"	10' 8"	9' 8" BGS	8' 8" BGS / 4.5 mA	9' 7" BGS / 4.02 mA	NC - open at 100psi
GSX-4	sump	10' 6"	13' 4"	12' 10"	11' 10" BGS	10' 10" BGS / 4.5 mA	11' 9" BGS / 4.02 mA	NC - open at 100psi
Hunt A	sump	9' 6"	7'	6' 6"	5' 6" BGS	4' 6" BGS / 4.5 mA	5' 5" BGS / 4.02 mA	NC - open at 100psi
HSX-1	well	49'	49'	44' 2"	41' 2" BGS	35' BGS / 12.5 mA	40' 8" BGS / 4.2 mA	NC - open at 100psi

NOTES

All dimensions are approximate

BGS - Below Ground Surface

Well depth information - Drawing depth - indicated on project IFC drawings

Well depth information - Actual depth is measured depth and includes 42" for above ground flange for new project pumps (EW-1, EW-2, EW-3, EW-4, & GSX-1R)

Pump depth for (EW-1, EW-2, EW-3, EW-4, & GSX-1R) is from the above ground flange to bottom of pump

Pump depth for (GSX-3, GSX-4, Hunt A, & HSX-1) is from ground to bottom of pump. The project did not install above ground flanges for these pumps

Level transmitter depth (Waterpilot) is from ground level to bottom of probe

Waterpilot level probe assemblies (cables & probes are 60' total length). Probe length is 12" - leaving 59' or 708" total length of assembly. Cables were not shortened and excess cable was rolled up in control panel.



Calibration Record

Date: 10/25/2022

Company: Instrumentation and Controls
Address: 6829 W. Frye Rd.
City/State/Zip: Chandler, AZ 85226
Phone: (480)-921-0498
Cell: (602)-809-6695
Email: Mike@instandcontrols.com
Technician: Michael Mere

Customer: Cholla Power
Address:
City/State/Zip: Joeseph City, Az 86032
Phone:
Cell:
Email:

Valves

Table with 5 columns: Well, Satic Water, Pump On, Pump Off. Rows include EW-1, EW-2, EW-3, EW-4, GSX-1R, GSX-3, GSX-4, HUNT A, HSX-1.

*Feet above transducer

Summary

Came on site to program E&H FMX21 level transducer to a Moore SPA2 and E&H RIA15. First the SPA2 and RIA15 had to be rewired for proper operation. All well FMX 21 were 0-30 PSI, sump FMX21 0-15 psi, set up RIA15 to display in feet above pump. Set the pump on controls based on the static water level of the well. The pump off was set to 6 inches above the transducer for the wells. The sumps the pump off is set for 1" above the transducer.

Signatures

Technician: Michael Mere

Customer: _____

Allied Power Fly Ash Seep project (CHC08903)

Allied Power Control Panel & Pump check-out plan

(Tuesday - 10/18/22) – Scott, Roubal, and Bittner

- Order of priority
 - EW-1, EW-2, EW-3, EW-4, GSX-1
- Prime pumps (if necessary) – **Not necessary**
- Install level probes in each well on Geronimo side (do not shorten cables, coil up excess in control panel) – **Complete**
- Install hose on sample nipple and route to nearest sump - **Complete**
- Set motor overload relay to 6.4 amp setting - **Complete**
- Verify CB-2 is open - **Complete**
- Verify CB-3 is open - **Complete**
- Close main breaker at PDP
 - Verify incoming voltage in panel is normal – **121vac**
- Close CB-1 – check voltage – **121vac**
- Bump pump in Hand – **Complete**
 - Make sure contactor picks up
- Run pump in hand and monitor discharge at hose – **Complete**
- Record pump amps while running
 - **EW-1 – 1.8 amps**
 - **EW-2 – 2.0 amps**
 - **EW-3 – 1.9 amps**
 - **EW-4 – 2.0 amps**
 - **GSX-1 – 1.9 amps**
- Record pump flow on flowmeter
 - **EW-1 – 7.6 gpm**
 - **EW-2 – 1.45 gpm**
 - **EW-3 – 3.81 gpm**
 - **EW-4 – 1.54 gpm**
 - **GSX-1 – .73 gpm**
- Record pump discharge pressure
 - **EW-1 – 38 psi**
 - **EW-2 – 41 psi**
 - **EW-3 – 20 psi**

- EW-4 – 50 psi
- GSX-1 – 18 psi
- Put switch in Auto – **Complete**
 - Check voltage at 1A
 - Jumper 1A to 1B
 - Check voltages at CM1 – **120vac at all pumps**
- Turn switch to Off – **All steps complete**
 - Leave jumper on 1A to 1B
 - Jumper CM1 to NO2
- Turn switch to Auto – **Complete with no issues**
 - Pump should start
 - Check discharge at hose
- Turn H-O-A switch to Off – **Complete**

Wednesday (10/19/22) - - Scott, Roubal, and Bittner

- Order of priority
 - GSX-3 & GSX-4
- Prime pumps (if necessary) – **Not necessary**
- Install level probes in each well (do not shorten cables, coil up excess in control panel) – **Complete**
- Install hose on sample nipple and route to nearest sump - **Complete**
- Set motor overload relay to 6.4 amp setting - **Complete**
- Verify CB-2 is open - **Complete**
- Verify CB-3 is open – **Complete**
- Close main breaker at PDP
 - Verify incoming voltage in panel is normal - **121vac**
- Close CB-1 – check voltage – **121vac**
- Bump pump in Hand
 - Make sure contactor picks up – **Complete**
- Run pump in hand and monitor discharge at hose – **No issues found**
- Record pump amps while running
 - **GSX-3 – 1.8 amps**
 - **GSX-4 – 11.5 amps**

- Record pump flow on flowmeter
 - GSX-3 – 12 gpm
 - GSX-4 – 11 gpm
- Record pump discharge pressure
 - GSX-3 – 18 psi
 - GSX-4 – 41 psi
- Put switch in Auto – **All complete with no issues found**
 - Check voltage at 1A
 - Jumper 1A to 1B
 - Check voltages at CM1
- Turn switch to Off – **All complete with no issues found**
 - Leave jumper on 1A to 1B
 - Jumper CM1 to NO2
- Turn switch to Auto – **All complete with no issues found**
 - Pump should start
 - Check discharge at hose
- Turn H-O-A switch to Off - **Complete**

Thursday (11/3/22) – Scott, Roubal, and Bittner

- Order of priority
 - HSX-1 & Hunt A
- Prime pumps (if necessary) – **Not necessary**
- Install level probes in each well (do not shorten cables, coil up excess in control panel) – **Complete**
- Install hose on sample nipple and route to nearest sump - **Complete**
- Set motor overload relay to 6.4 amp setting - **Complete**
- Verify CB-2 is open - **Complete**
- Verify CB-3 is open – **Complete**
- Close main breaker at PDP
 - Verify incoming voltage in panel is normal - **120vac**
- Close CB-1 – check voltage – **120vac**
- Bump pump in Hand
 - Make sure contactor picks up – **Complete**
- Run pump in hand and monitor discharge at hose – **No issues found**

- Record pump amps while running
 - Hunt A – 9.2 amps
 - HSX-1 – 9.5 amps
- Record pump flow on flowmeter
 - Hunt A – 13.5 gpm
 - HSX-1 – 4.87 gpm
- Record pump discharge pressure
 - Hunt A – 52 psi
 - HSX-1 – 38 psi
- Put switch in Auto – **All complete with no issues found**
 - Check voltage at 1A
 - Jumper 1A to 1B
 - Check voltages at CM1
- Turn switch to Off – **All complete with no issues found**
 - Leave jumper on 1A to 1B
 - Jumper CM1 to NO2
- Turn switch to Auto – **All complete with no issues found**
 - Pump should start
 - Check discharge at hose
- Turn H-O-A switch to Off - **Complete**

Monday (10/24/22) – Mere (IAC), Scott, and Bittner

Mike Mere (Instrument & Controls) technician arrived around 9am. The level controls for all nine (9) new pump controls panels were calibrated during his visit

- Program and set up level controls (Moore relay and Waterpilot probes)
 - EW-1
 - EW-2
 - GSX-4
 - GSX-3
 - GSX-1
 - EW-3
 - EW-4
- After settings downloaded, simulated pump on and pump off. Went well with no issues
- As left settings (saved in 7705 – Capital – Seep 2022)

Tuesday (10/25/22)

- Finished all set up and level control checkout – Mere (IAC) left site in early afternoon

- Programmed Hunt A & HSX-1 level controls at Kelly building to be installed 10/31/22 week

Wednesday (10/26/22)

- Took full LOTO
 - Geronimo side five new pump underground discharge valves
 - Main Hunt breaker
 - Valve (existing piping on west end below Fly Ash dam)
 - GSX-3 valve
 - GSX-3 & GSX-4 control panel breakers
- Cutover new piping (existing pump discharge to common header) on GSX-3 & GSX-4
- Installed blind flanges on abandoned underground discharge piping
- Cutover power feeds to new control panels for GSX-3 & GSX-4
- GSX-3 would not run, troubleshooting indicated bad pump

Thursday (10/27/22)

- Clean up of area and verification

Monday (10/31/22)

- Argus began insulating on the Geronimo side

Tuesday (11/1/22)

- Took full LOTO
- Installed HSX-1 control panel
- Tied in HSX-1 piping to header
- Removed bad pump on GSX-3. Used separate work order (CH964064)
- Argus continued insulating Geronimo side

Wednesday (11/2/22)

- Took full LOTO
- Installed Hunt A new control panel
- Tied in Hunt A piping to header
- Finished pump changeout on GSX-3 (CH964064)

APPENDIX

H

W-307R AND M52A AQUIFER
TESTING TECHNICAL
MEMORANDUM

TECHNICAL MEMORANDUM

To: Arizona Public Service Company **Project No.** 14-2022-2029
400 N. 5th Street
Phoenix, Arizona 85004

By: Brenden Enos, PG **Reviewed by:** Rebecca Weaver, PE

Date: January 17, 2024

Re: **W-307R and M-52A Aquifer Testing, Bottom Ash Pond**
Cholla Power Plant – Navajo County, Arizona

INTRODUCTION

This technical memorandum documents the performance and analysis of aquifer tests conducted by WSP Environment and Infrastructure, Inc. (WSP) at wells W-307R and M-52A. The monitoring wells are located hydraulically downgradient of the Arizona Public Service Company (APS) Cholla Power Plant (Site) Bottom Ash Pond (BAP) in Navajo County, Arizona (**Figure 1**). The aquifer tests were conducted as part of the BAP Pre-design Studies, which are being done to support the selection and design of the groundwater remedy for the BAP, to satisfy the corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Sections (§) 257.90 through 257.98 (herein referred to as the Coal Combustion Residuals [CCR] Rule, Federal Register, 2020).

SITE BACKGROUND

CCR groundwater monitoring system and historical operational information is presented in the *Annual Groundwater Monitoring and Corrective Action Report for 2023* (WSP, 2024). The BAP is one of four CCR units at the Site. The BAP is an unlined surface impoundment that receives slurried bottom ash from the plant. The BAP was constructed between 1976 and 1978 in an ephemeral surface water channel that formerly discharged into Tanner Wash. The BAP dam is comprised of southern and eastern dams operating as one dam system. The BAP dam system was primarily constructed on top of the Tanner Wash Alluvium (Alluvium), which consists of heterogeneous and laterally discontinuous layers of clay, sand, and gravel, and the Moenkopi Moqui formation (Moqui), which is a mudstone that acts as the primary confining unit below the Alluvium. Additionally, portions of the eastern dam were constructed on the Moenkopi Holbrook formation (Holbrook), and the Chinle formation (Chinle), which are both relatively permeable sandstone units that overlie the Moqui.

The BAP dams have a clay core that extend through the alluvium to bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In regions where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. However, due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 30 to 40-ft thick layer of alluvium below the base of the cutoff wall in this region.

Water from the BAP seeps through below the clay core of the southern and eastern dams and below the cutoff wall in the southern dam along preferential pathways located within the Alluvium, Holbrook, Chinle, and likely within weathered sections of the upper portions of the Moqui. This seepage migrates to portions of the Tanner Wash Alluvial basin located downgradient of the BAP, where it infiltrates the uppermost aquifer within the Alluvium and upper portions of the Moqui. While the Moqui is the primary confining unit beneath the Alluvium, weathered sections of the upper part of the unit located downgradient of the BAP are observed to be saturated and hydrogeologically connected to the overlying alluvial aquifer. Groundwater in the uppermost aquifer downgradient of the BAP generally flows to the southwest along the footprint of Tanner Wash.

PURPOSE

The Pre-design Studies were conducted to collect additional data related to sediment geochemistry, groundwater quality and aquifer properties to evaluate the effectiveness of potential containment and treatment technologies (including monitored natural attenuation (MNA)) and to aid in updating the Site's numerical groundwater model. This work will allow for a performance evaluation of Corrective Measures (CM) supporting remedy selection and can be used to aid in advancing preferred containment or treatment technologies, or combination thereof.

Aquifer testing was conducted at W-307R in November 2021 as part of the Pre-design Studies to better understand aquifer properties in the central portion of the Tanner Wash Alluvial basin located east and downgradient of the BAP dam. The aquifer testing included the performance of a 36-hour constant-rate test, during which time a pumping rate of 20 gallons per minute (gpm) was sustained. The pumping rate and duration sustained during this aquifer test failed to stress the aquifer in the vicinity of W-307R adequately to evaluate if there are hydraulic barriers, recharge areas or other types of connectivity between the well location and the BAP (and immediately downgradient seep areas) as there were no impacts observed in wells located between the pumping well and the BAP facilities. WSP recommended performing the constant rate aquifer test again at a higher flow rate and for a longer duration, to further evaluate aquifer properties and connectivity between the well location and the BAP (WSP, 2023).

Aquifer testing was also conducted at TDX-5 (formerly referred to as BSX-03) in June 2021 as part of the Pre-design Studies to better understand aquifer properties south of the southern BAP dam, and to evaluate the effectiveness of TDX-5 to intercept seepage from the BAP. The aquifer testing included the performance of a constant rate test, during which time pumping rates varied between 1.4 gpm and 1.7 gpm until the water level at the test well drew down to the pump intake at approximately 10 hours after the test began. The constant-rate test results indicate TDX-5 is likely incapable of supporting a pumping rate greater than 1 gpm.

During the TDX-5 constant-rate test, a drawdown in water level attributed to the aquifer test at TDX-5 was observed at nearby wells M-52A, MW-69A, and MW-70M, which indicates these wells are all hydraulically connected (WSP, 2023). M-52A, located approximately 40 ft north of TDX-5, is completed in the same setting of the alluvial aquifer as TDX-5 (with a screened interval that spans across the contact between the Alluvium and weathered sections of the upper Moqui). Because the two wells are completed approximately in the same lateral and vertical location downgradient of the southern BAP dam, WSP recommended performing aquifer tests at M-52A so that the pumping rates sustained during that test could be compared to those sustained at TDX-5, as no previous aquifer testing was completed at M-52A during its construction (WSP, 2023). If pumping rates sustained during the M-52A aquifer tests proved to be higher than those sustained at TDX-5, then M-52A could be converted to an extraction well to intercept seepage downgradient of the southern BAP dam instead of TDX-5. MW-70M and MW-69A were also observed to be hydraulically connected to TDX-5, however these wells were not considered for evaluation as potential extraction wells due to the location of their well screens within the alluvial aquifer. Specifically, MW-70M is screened only in the Moqui and could potentially miss seepage in the Alluvium from the BAP if it were utilized for seepage collection. The

drawdown response observed at MW-69A during the TDX-5 aquifer test was slower and more delayed than the other observation wells, indicating MW-69A is completed in a portion of the alluvial aquifer that is separated from the portion of the alluvial aquifer in which TDX-5 and M-52A are completed by a leaky-confining layer (WSP, 2023). MW-69A could miss seepage from the BAP in the lower portions of the Alluvium and upper weathered sections of the Moqui if it were utilized for seepage collection.

AQUIFER TEST OBJECTIVES AND DESIGN

Primary objectives for the June 2023 aquifer tests included the following:

- ▶ Calculating aquifer properties downgradient of the BAP (e.g., hydraulic conductivity, transmissivity, storativity), specifically at W-307R, to update the current understanding of aquifer properties in the central portion of the Tanner Wash Alluvial basin near W-307R;
- ▶ Evaluating the potential of converting M-52A to an extraction well;
- ▶ Obtaining specific capacity data for M-52A to assist in pump sizing in the event that M-52A is converted to an extraction well; and
- ▶ Evaluating connectivity between wells downgradient of the BAP (i.e., radius of influence of pumping wells).

The aquifer tests were planned as one constant-rate test at W-307R, and one step-rate test and one constant-rate test at M-52A. The location of W-307R and the observation points for the W-307R constant-rate test are depicted on **Figure 2**. The location of M-52A and the observation points for the M-52A aquifer tests are depicted on **Figure 3**. Construction details for each test well and observation point are summarized in **Table 1**.

DESCRIPTION OF FIELD ACTIVITIES

AQUIFER TEST EQUIPMENT

A 3-inch nominal diameter test pump (Grundfos Model 30 SQE10-130) was used to conduct the aquifer tests at W-307R and M-52A. A PRM Filtration mechanical propeller type flowmeter with totalizer (model 21M-003186) was used to measure test flow rates during the W-307R constant-rate test. Aquifer test flow rates were measured during the M-52A step-rate and constant-rate tests by periodically measuring the time necessary to fill a container of known volume. Observation point water-level data were collected using 15 pounds per square inch gauge (psig) In-Situ Level TROLL[®] 700 pressure transducers with vented cables. Water-levels at test wells were collected using a 30 psig In-Situ Level TROLL[®] 700 pressure transducer with a vented cable and a hand-held water level meter. Groundwater produced during the W-307R aquifer tests was temporarily containerized in a 1,000-gallon (gal) water storage tank located near the W-307R wellhead within the United States Department of the Interior Bureau of Land Management (BLM) easement and transferred to a 12,000-gal water storage tank located near W-304 through a pipeline consisting of flexible hose which was positioned within the BLM easement as outlined in **Figure 1**. Water was then transferred from the 12,000-gal water tank to the BAP via a 12,000-gal water truck. Groundwater produced during the M-52A aquifer test was discharged into the 12,000-gal water truck and transferred to the BAP.

SITE MOBILIZATION

The aquifer tests were conducted between June 12 and 22, 2023. Pre-test activities included constructing the water management systems, collecting background water-level data, and function testing of the pump configurations at

each well. WSP deployed pressure transducers at W-307R observation wells W-304, MW-79A, MW-71A, and MW-73A to record background data at 1-minute intervals prior to the start of aquifer testing at W-307R. Similarly, WSP deployed pressure transducers at M-52A observation wells MW-69A, MW-70M, and TDX-5 to record background data at 1-minute intervals prior to the start of aquifer testing at M-52A.

W-307R TESTING

Constant-Rate Test

The constant-rate test at W-307R was conducted between June 13 and 16, 2023. Prior to starting the test, the static water level (SWL) in W-307R was 19.86 ft bgs. The test pump was installed at approximately 63 ft bgs and the pressure transducer was secured to the pump column for an installation depth of 61.23 ft bgs.

Water level measurements were collected using the pressure transducer at the test well. Collection of manual measurements using a water-level meter was not possible during the constant-rate test due to erroneous instrument readings, which were likely caused by the interference of groundwater cascading through the well screen. The pressure transducers installed at W-304, MW-79A, MW-71A, and MW-73A were restarted prior to the start of the constant rate test to monitor water levels during the constant rate test at W-307R. The pressure transducers were programmed to record at 1-minute intervals. The locations of the observation wells in relation to W-307R are presented in **Figure 2**.

The constant rate test was started at 10:36 am on June 13, 2023. An initial target pumping rate of 30 gallons per minute (gpm) was chosen based on drawdown response observed during the 36-hour constant rate test performed at W-307R in 2021 (WSP, 2023), however, the pumping rate varied between 28 gpm and 32 gpm until the pumping rate settled at 28 gpm at approximately 26 minutes after the start of pumping. The 28 gpm pumping rate was designated as the target pumping rate for the remainder of the constant-rate test to avoid further manual adjustments and potential manipulation of the time/drawdown data. The nominal pumping rate of 28 gpm was successfully maintained for the duration of the constant rate test. The table below summarizes the pumping rate and drawdown observed during the test, and pumping rates are specified on the W-307R Constant-Rate Test Form, included in **Appendix A**.

Table 2 – W-307R Constant-Rate Test Summary

PUMPING RATE (GPM)	PUMPING RATE DURATION (MINUTES)	TOTAL ELAPSED TEST TIME (MINUTES)	DRAWDOWN (FT)
28	4,321	4,321	27.49

Water level drawdown in response to pumping at W-307R during the constant rate test was not observed at any of the observation wells.

After stopping the test, water level was monitored for approximately 4,197 minutes. Water level recovered to over 90% the static water level approximately one minute after the pump was stopped. Drawdown and recovery data recorded at the test well during the constant-rate test is included on **Figure 4** and drawdown and recovery data recorded at the observation wells during the constant-rate test is included on **Figure 5**.

Groundwater Quality Sampling

WSP collected three groundwater samples over the course of the W-307R constant-rate test. Each sample was labeled and placed on ice for transport to Eurofins Environment Testing USA (Eurofins), an Arizona Department of Health-

certified laboratory (AZ0728) for analysis. The samples were analyzed for aluminum, boron, calcium, cobalt, iron, magnesium, potassium, and sodium. Additionally, the last sample collected (CRT3-W307R-0623) was analyzed for chloride, sulfate, and alkalinity. The laboratory analytical report is included as **Appendix B**. Water quality parameters, including temperature, pH, specific conductance, dissolved oxygen, oxidation reduction potential, and turbidity were measured at the time of sample collection. Sample analysis and field parameters results are summarized in **Table 3**.

M-52A TESTING

Step-Rate Test

A step-rate test was conducted at M-52A on June 20, 2023. Prior to starting the test, the SWL at M-52A was measured at 17.82 ft bgs. The test pump intake was installed at approximately 68 ft bgs and the transducer in the pumping well was secured to the pump housing for an installation depth of 63.72 ft bgs.

The step-rate test began at 08:33 am at an initial pumping rate of 1 gpm. The step-rate test was conducted for approximately 123 minutes and consisted of pumping at 1 and 2 gpm in approximate 60-minute intervals. A summary of the step-rate test is provided in the table below, and pumping rates are specified on the M-52A Step-Rate Test Form, included in **Appendix A**.

Table 4– M-52A Step-Rate Test Summary

PUMPING RATE	PUMPING RATE (GPM)	PUMPING RATE DURATION (MIN)	TOTAL ELAPSED TEST TIME (MIN)	DRAWDOWN (FT)
1	1.0	60	60	19.95
2	2.0	63	123	47.75

Drawdown did not stabilize during either the first or the second pumping step. However, drawdown rates significantly reduced at the end of the first step (between 45 minutes after the start of the test until the pumping rate was increased to 2 gpm, at 60 minutes after the start of the test). During this time, the drawdown rates reduced from an average of approximately 0.66 feet per minute (fpm) (between 26 and 45 minutes after the start of the test) to an average of approximately 0.03 fpm (between 45 and 60 minutes after the start of the test). Drawdown data was used from this time period to calculate specific capacity for the well, since drawdown rates were most stable during this time period. The calculated specific capacity for the end of the first step is approximately 0.05 gpm/ft.

The test pump and transducer were left in the well overnight to monitor water-level recovery prior to the start of the M-52A constant-rate test. Drawdown and recovery data recorded at the pumping well during the step-rate test is included on **Figure 6** and drawdown and recovery data recorded at the observation wells during the step-rate test is included on **Figure 7**.

Constant-Rate Test

The M-52A constant-rate test was conducted on June 21, 2023. Prior to starting the test, the SWL was measured at 18.07 ft bgs. A pumping rate of 1 gpm was selected for the constant-rate test since water level drawdown was close to stabilizing at that rate during the step-rate test. The constant-rate test began at 08:24 am and was performed uninterrupted for 8 hours. Water was pumped from the well at a rate of 1 gpm for the first 60 minutes of the constant-rate test, at which point the pumping rate was reduced due to an observed rapid decline in water level. After this

point, pumping rates varied between 0.69 and 0.9 gpm for the remainder of the constant-rate test. Pumping rates and drawdown is summarized in **Table 5** below and are specified on the M-52A Constant Rate Test Form, included in **Appendix A**.

Table 5– M-52A Constant-Rate Test Summary

PUMPING RATE (GPM)	PUMPING RATE DURATION (MIN)	TOTAL ELAPSED TEST TIME (MIN)	DRAWDOWN (FT)
1.0	60	60	21.32
0.9	11	71	22.96
0.8	4	75	23.37
0.76	80	155	29.70
0.68	30	185	31.68
0.72	15	200	32.65
0.69	3	203	32.84
0.79	87	290	37.90
0.82	15	305	38.79
0.75	45	350	40.96
0.72	31	381	41.87
0.76	99	480	42.94

After stopping the test, water level was monitored for approximately 947 minutes. Water level recovered to over 90% the static water level approximately 358 minutes after the pump was stopped. Drawdown and recovery data recorded at the test well during the constant-rate test is included on **Figure 8** and drawdown and recovery data recorded at the observation wells during the constant-rate test is included on **Figure 9**.

Groundwater Quality Sampling

WSP collected three groundwater samples throughout the M-52A constant-rate test. Each sample was labeled and placed on ice for transport to Eurofins for analysis. The samples were analyzed for Boron and Cobalt. Additionally, water quality parameters including temperature, pH, specific conductance, dissolved oxygen, oxidation reduction potential, and turbidity were measured in the field using a calibrated water quality meter. The laboratory analytical report is included as **Attachment A**. Sample analysis and field parameters results are summarized in **Table 6**.

ANALYSIS OF AQUIFER TEST RESULTS

The conceptual site model (CSM), as described in *Annual Groundwater Monitoring and Corrective Action Report for 2023*, was used as a basis for aquifer test analysis assumptions (Wood, 2024). In addition, lithologic logs, well construction diagrams, and previous aquifer test results were reviewed to assess hydrogeologic conditions at each of the test and observations wells. In summary, the hydrogeological setting in which the test and observation wells are completed consists of the uppermost alluvial aquifer located within the Tanner Wash Alluvial basin downgradient of the BAP.

This aquifer primarily consists of unconsolidated heterogeneous layers of clay, silt, sand, and gravel and receives recharge from Tanner Wash and leakage from the BAP. The aquifer primarily consists of unconsolidated heterogeneous layers of clay, silt, sand, and gravel. Wet zones noted in the Holbrook and Moqui indicate BAP seepage/groundwater likely flows through preferential pathways and highly weathered zones below the alluvial unit. Generally, groundwater flows in a southwest direction through potentially discontinuous preferential pathways. The heterogeneity of the aquifer in the area of the BAP likely results in variable thickness and hydraulic conductivity across relatively small areas.

ZONE OF INFLUENCE EVALUATION

The radius of influence is defined as the radial distance from a pumping well where drawdown is effectively zero and the zone of influence is the area within this radial distance (Duffield, 1996). Due to the heterogeneity and anisotropic characteristics of the alluvial aquifer downgradient of the BAP, the zones of influence produced during past aquifer tests downgradient of the BAP vary widely (WSP, 2023). The zones of influence produced by the W-307R and M-52A constant rate tests were evaluated by observing water level drawdown at the observation wells during the tests. **Figures 2 and 3** show the locations of the observation wells in relation to W-307R and M-52A, respectively. **Figures 5 and 9** present time-drawdown plots of groundwater levels recorded at the observation wells during the W-307R and M-52A constant rate tests, respectively.

W-307R

Water level drawdown response was not observed at any of the observation wells during the W-307R constant rate test, so the zone of influence induced from the pumping well during the constant rate test was smaller than the distance to the closest observation well (MW-71A, located 660 feet to the northwest).

M-52A

Water level drawdown response which corresponded to the M-52A constant-rate test, was observed at MW-69A, MW-70M, and TDX-5, located approximately 22 ft southwest, 32 ft southwest, and 38 ft south of M-52A, respectively. Drawdown response was observed at each of the observation wells. Based on these observations, the extent of the radius of influence produced from the M-52A constant rate test exceeded a radial distance of 38 ft which correspond to the distances from M-52A to TDX-5.

The time-drawdown data collected at MW-69A and presented on **Figure 9** does not clearly demonstrate a time-drawdown trend that corresponds with the trends seen at TDX-5 and MW-70M, however, the drawdown observed at this well is likely a result of pumping at M-52A (screened from 20 to 70 ft bgs) during the aquifer test. MW-69A is screened in shallow (17-27 ft bgs) and clay-rich sections of the alluvium while TDX-5 and MW-70M are both screened deeper (36-76 ft bgs and 46-76 ft bgs, respectively) in weathered sections of the Moqui (**Appendix C**). A similar response was observed between MW-69A and TDX-5 during the constant rate test conducted in 2021 (WSP, 2023). The low permeability rates of the clay-rich alluvium likely create a slow and delayed drawdown response in the water table at MW-69A, which resulted in the linear trend seen for the time-drawdown data included on **Figure 9**.

SATURATED THICKNESS

The thickness of the aquifer (b) used for each aquifer test evaluation was based on the saturated thickness in the pumping well and is included in **Table 7**. The wells were considered to partially penetrate the aquifer based on the placement of the well screen within the aquifer. The hydraulic conductivity ratio of vertical conductivity (Kz) to

horizontal conductivity (K_r) was assumed to be 0.1 for each test analysis to comply with parameters set in recent analytical modelling of the Tanner Wash alluvial aquifer near the BAP (Montgomery & Associates).

W-307R

A b value of 45.14 ft was based on the vertical distance between the SWL measured at the test well prior to the start of the constant-rate test (22.69 ft bgs) and the bottom of the W-307R well screen (65 ft bgs). For the analysis, W-307R well construction was defined as partially penetrating the aquifer because the well screen interval is from 35 to 65 ft bgs (i.e., the 45.14 ft aquifer is partially screened over 30 ft), and saturated soil was logged above the well screen interval.

M-52A

A b value of 54.65 ft was based on the vertical distance between the SWL measured at the test well prior to the start of the constant-rate test (18.07 ft bgs) and 75 ft bgs, which is approximately the average depth at which dry Moqui has been encountered in nearby borings MW-70M (73 ft bgs) and TDX-5 (82 ft bgs). Lithologic data from these wells was used to determine the base of the saturated zone because lithologic data from the M-52A boring indicates the well was terminated in a zone of Moqui containing moisture (above the base of the saturated zone). M-52A well construction was defined as partially penetrating the aquifer because the well screen interval is from 20 to 70 ft bgs (i.e., the 54.65 ft aquifer is partially screened over 50 ft).

AQUIFER TEST ANALYSIS RESULTS

Drawdown and recovery data recorded from the test wells and their respective observation wells (as applicable) was analyzed to determine aquifer properties such as transmissivity, storativity, and hydraulic conductivity. Values for transmissivity and storativity were obtained from the analysis of test data using the AQTESOLV (Duffield, 1996) software package. Analytical solutions used to assess the test data include the Hantush-Jacob drawdown and recovery methods for leaky-confined aquifers (1955), the Cooper-Jacob method (1946), and the Theis drawdown and recovery methods (1935). The Hantush-Jacob method was used to assess time-drawdown and recovery data and assumes a homogeneous, anisotropic, leaky, confined aquifer with vertical flow in the aquitard(s) (Hantush and Jacob, 1955). The Cooper-Jacob solution was used to assess late time-drawdown data and assumes a homogeneous, isotropic, unconfined aquifer with unsteady flow (Cooper and Jacob, 1946). The Theis solution was used to assess late time drawdown data and assumes a homogenous, isotropic, unconfined aquifer with unsteady flow (Theis, 1935). The Theis solution was also used to assess late time recovery data which assumes a homogenous, isotropic, confined aquifer with unsteady flow (Theis, 1935).

Hydraulic conductivities were estimated using the following equation:

$$T=Kb$$

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

The analytical solutions are presented in **Appendix D** and summarized on **Table 7**. Time-drawdown data used for the W-307R constant-rate test analysis are presented on **Figures 4** and **5**, and time-drawdown data used for the M-52A constant-rate test analysis are presented on **Figures 8** and **9**.

W-307R

W-307R constant-rate test drawdown and recovery data was analyzed using the Hantush-Jacob, Cooper-Jacob methods. W-307R recovery data was analyzed using the Theis analysis method. Transmissivity values produced from these analyses range from 126.3 ft^2/d (944.7 gpd/ft) to 5,115.8 ft^2/d (38,266.2 gpd/ft). Hydraulic conductivity values ranging from 2.8 ft/d to 113.3 ft/d were calculated by dividing the transmissivity values from the aquifer test analysis

by the saturated thickness of 45.1 ft. The average transmissivity is 2,128.8 ft²/d (15,923.2 gpd) and the average hydraulic conductivity is 47.2 ft/d. These results are presented in **Table 7**. Due to the lack of drawdown response observed at any observation well during the W-307R constant-rate test, the Theis solution for residual drawdown data was selected as the most applicable solution for this location since this method does not require observation well data.

The rate at which water level drew-down during the constant rate test came close to stabilizing (approximately 0.4 ft/hour average) until approximately 3,444 minutes after pumping started, at which time the water level drew down approximately 1 foot over the course of 3 minutes (from 3444.73 to 3447.73 minutes after starting the test). Following this brief interval of increased drawdown, the rate of water level draw-down was comparable to the rate of water level drawdown prior to 3444.73 minutes after starting the pump (approximately 0.27 ft/hour). This period of increased drawdown either suggests the presence of a boundary condition or an undetected mechanical issue with the pump. However, field observations collected at the time of the test indicate pumping rates stayed at 28 gpm during and after the brief moment of increased drawdown and no problems with the pump configuration were documented during the test, so the period of increased drawdown can likely be attributed to a boundary condition. The cone of depression created by the constant rate test may have intercepted a small zone of less permeable sediments in the alluvial aquifer which increased the drawdown rate at the test well. This is an expected occurrence in heterogeneous aquifers such as the Tanner Wash alluvial aquifer, which is composed of laterally discontinuous layers of transmissive sediments. Water level drawdown at the pumping well is presented as **Figure 4**.

M-52A

M-52A constant-rate test drawdown and recovery data was analyzed using the Hantush-Jacob, Cooper-Jacob, and Theis analysis methods for data obtained at M-52A, MW-70M, and TDX-5. Drawdown and recovery data collected at MW-69A was not included in the test analysis because the time-drawdown data trend was not defined enough to support accurate curve matching. Transmissivity values range from 1.2 ft²/d (9.1 gpd/ft) to 277.3 ft²/d (2,074.2 gpd/ft) with an average of 154.3 ft²/d (1,154.0 gpd/ft). The hydraulic conductivity estimates, obtained by dividing the transmissivity values by the saturated thickness of 54.7 ft, range from 0.02 ft/d to 5.07 ft/d, with an average of 2.82 ft/d. Excluding the residual drawdown analysis from M-52A, the average transmissivity is 169.6 ft²/d (1,268.5 gpd/ft) and the average hydraulic conductivity is 3.1 ft/d. These results are presented in **Table 7**.

Water level drawdown rates did not stabilize during the M-52A constant-rate test (**Figure 8**). Changes in water level drawdown rates observed during the constant rate test are generally attributed to changes in the pumping rate, however, a noticeable increase in drawdown rates between approximately 30.7 to 47.7 minutes after the start of the test does not correlate with pumping rate fluctuations documented on the aquifer test field form (**Figure 8 and Appendix A**). A similar change is observed in the recovery data at approximately 737.9 minutes after the start of the test, where a noticeable decrease in the water level recovery rate is observed on **Figure 8**. This same drawdown trend is observed on the observation well plots presented on **Figure 9** at approximately 39.5 minutes after the start of the test, where, prior to this point, drawdown rates in observation wells MW-70M and TDX-5 is noticeably slow, and no drawdown is observed at MW-69A. After this point, drawdown at the MW-70M and TDX-5 increases and drawdown begins at MW-69A. Additionally, a noticeable decrease in recovery rates is apparent in the MW-70M and TDX-5 recovery data at approximately 737.9 minutes after the start of the test, which matches the trend seen on the test well recovery data (**Figure 9**). Drawdown is also observed to end and recovery begins at MW-69A at approximately this same time.

A similar change in drawdown rates was observed during the step-rate test. The accelerated drawdown rate observed at the test well during the first step between approximately 26 and 45 minutes after the start of the test corresponds to the same interval observed during the constant-rate test. Additionally, a period of decreased recovery rates is

apparent in the step-rate test recovery data for the test well and observation wells at approximately 400 minutes after starting the test.

This change in drawdown and recovery rates is interpreted as the interception of a less-permeable layer by the cone of depression induced by pumping during both the pumping and recovery monitoring phases of the aquifer tests. It's postulated that during the beginning 39.5 minutes of the constant-rate test, groundwater moved through a less permeable aquifer layer, which slowed recharge rates (and accelerated drawdown rates) at the pumping well and delayed drawdown at the observation wells. Once the cone of depression impacted a zone of higher permeability, water was able to be supplied to the test well at a faster rate (which slowed the drawdown rate at the pumping well), and the cone of depression extended out to the observation wells, which increased drawdown at those locations. This same layer was intercepted again at 737.9 minutes after the start of the test when the water table was recovering, which slowed recovery rates at the test and observation wells.

The observed drawdown and recovery trends indicate the presence of a leaky confining layer which overlies a more permeable aquifer at depth. Lithologies observed during borehole advancement further support this claim. The presence of a layer of clay-rich alluvial sediments are noted on the M-52A, TDX-5, and M-70M boring logs above the wells respective screened intervals (from 0-10 ft bgs, 15-29 ft bgs, and 13-19 ft bgs, respectively), and similar clay-rich alluvial sediments are noted on the MW-69A boring log throughout and directly below the well's screened interval (from 13-19 ft bgs and 25-29 ft bgs) (**Appendix C**). Additionally, saturated and highly weathered Moqui is noted directly below the contact between the alluvium and Moqui on the MW-70M, MW-69A, and TDX-5 boring logs (**Appendix C**). MW-69A is screened in or directly above the clay-rich leaky confining unit. The screened intervals at M-52A and TDX-5 partially intercept this clay-rich leaky confining unit, but also intercept the more permeable aquifer located at the contact between the alluvium and weathered Moqui. The MW-70M screened interval is below the leaky confining layer and only penetrates the more permeable aquifer. This relationship created the delayed drawdown and recovery trend observed at MW-69A and the accelerated and slowed drawdown and recovery rates observed at M-52A, TDX-5, and MW-70M.

These observed hydrogeologic conditions support the selection of the Hantush-Jacob solution, which assumes leaky-confined conditions for the aquifer, as the most applicable aquifer test analysis solution for this location. The average of the conductivity values obtained from this method is 2.7 ft/d.

WATER QUALITY ANALYSIS

Analytical results for the groundwater samples collected during the constant rate tests at W-307R and M-52A were evaluated to understand changes in groundwater chemistry at the test well locations throughout the constant rate tests. The analytical results for samples collected during the W-307R constant rate test are summarized in **Table 3**, and the analytical results for samples collected during the M-52A constant rate test are summarized in **Table 6**. Each table includes analytical data from groundwater samples collected at the respective test well in April 2023, October 2022, and April 2022, for comparison. The laboratory analytical report for the samples collected during the constant rate tests are included in **Appendix B**. The sampling of groundwater during the constant rate tests were not performed in accordance with the Sampling and Analysis Plan (SAP) for the Site (Wood, 2022). This data was reviewed for a qualitative comparison and should not be considered statistically relevant data as part of the detection and assessment monitoring programs for CCR corrective action, closure, and post-closure.

W-307R

No significant variation in constituent concentration is apparent between the three samples that were collected during the W-307R constant-rate test. Generally, the highest constituent concentrations were observed for the first

sample collected (CRT1-W-307R-0623) and the lowest concentrations are observed for the last sample collected (CRT3-W307R-0623); however, the differences between the highest and lowest concentrations are relatively small and the concentrations are within the ranges of concentrations from recent sample events (October 2022 and April 2023, respectively). Additionally, no significant variation in the field parameters measured at the time each sample was collected is observed between the three samples collected during the W-307R constant-rate test.

M-52A

No significant variation in constituent concentration is apparent between the three samples collected during the M-52A constant rate test. Additionally, the constituent concentrations are within the ranges of concentrations from recent sample events (October 2022 and April 2023, respectively).

Variation in the field parameters measured during sample collection was observed between samples. One parameter which showed considerable variability was ORP, which decreased from 159.5 millivolts (mV) for the first sample to -0.3 mV for the last sample collected during the constant-rate test. This transition from oxidizing to reducing groundwater conditions indicates that the groundwater pumped from M-52A early in the test was likely sourced from higher elevations in the alluvial aquifer and the groundwater pumped later in the test was likely sourced from lower elevations in the alluvial aquifer. Groundwater in the alluvial aquifer sourced from higher elevations in the area around M-52A has historically had a positive ORP value and groundwater sourced from lower elevations have historically had a negative ORP value. Samples collected at MW-69A and M-52A during the three most-recent semi-annual sampling events supports this relationship; all three samples collected at MW-69A were positive (35.4 mV, 20.5 mV, and 61 mV for sample collected in April 2022, October 2022, and April 2023, respectively) and all three samples collected at M-52A were negative (Table 6). This relationship indicates that M-52A has the potential to capture groundwater located in both higher and lower elevations of the alluvial aquifer. Additionally, this relationship indicates groundwater is limited in the higher elevation portions of the alluvial aquifer near M-52A.

Significant variation in turbidity was also observed, which rose from 9.81 to 557 NTUs between the first and second sample, and then decreased to 77 NTUs with the third sample. The variation in turbidity can likely be attributed to the changes made to the pumping rate during the test.

SUMMARY AND CONCLUSIONS

The average aquifer properties calculated from the aquifer test data are summarized below.

Table 8 - Summary of Aquifer Test Results

TEST WELL	TRANSMISSIVITY (GPD/FT)	HYDRAULIC CONDUCTIVITY (FT/D)	STORATIVITY (DIMENSIONLESS)
W-307R	38,266.2	113.3	0.08*
M-52A	1,119.8	2.7	0.05

*Value is the ratio of storativity during pumping to storativity during recovery

The W-307R aquifer test did not stress the aquifer in the vicinity of W-307R adequately to evaluate connectivity between the well location and other wells located downgradient of the BAP because there was no evidence of impacts at observation wells used during the W-307R aquifer test. Additional observation points are recommended prior to conducting future aquifer tests at W-307R for the purpose of evaluating connectivity between W-307R and the BAP or

other portions of the Tanner Wash Alluvial aquifer. These additional observation points should be located closer to W-307R than the existing points, ideally within 100 to 200 feet of the well.

The lack in variability of the groundwater quality obtained during the W-307R aquifer test indicates the groundwater pumped from W-307R during the aquifer test was from a single source which was not depleted during the 72-hour pumping cycle. The size and extent of this body of groundwater is currently unknown. WSP recommends conducting further investigations in the central portion of the Tanner Wash Alluvial basin located between W-307R and the BAP to better define the lithology of the aquifer and extent of the body of groundwater located near W-307R. Investigative techniques in this area could include geophysical surveys (resistivity and seismic surveys), drilling exploratory borings, or installing additional extraction wells. However, future investigations in this area may be limited to established access easements due to land ownership around W-307R (**Figure 1**).

The pumping rates attempted during the M-52A constant-rate test all exceeded the maximum sustainable pumping rate for the well, as the water level drawdown never stabilized during the test. At this time, WSP does not recommend converting M-52A to an extraction well. Instead, TDX-5, located approximately 40 feet to the south of M-52A, is more suitable as an extraction well in this area. TDX-5 is a newer 6-inch well (installed in 2021) and sustained higher pumping rates (1.5 gpm) for a longer period of time (approximately 10 hours) than M-52A during aquifer testing conducted at that well in 2021 (WSP, 2023).

The drawdown trend observed at MW-69A, and the periods of increased drawdown rates and decreased recovery rates observed during the M-52A constant-rate and recovery tests indicates a layer of less-permeable alluvial sediments is present throughout the screened interval of MW-69A and either above or near the top of the screened intervals of M-52A, MW-70M, and TDX-5. Additionally, this indicates groundwater flow in this area is likely preferential along the contact between the alluvium and Moqui.

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ATTACHMENTS:

Figure 1 – Aquifer Test Site Overview Map

Figure 2 – W-307R Aquifer Test Observation Point Map

Figure 3 – M-52A Aquifer Test Observation Point Map

Figure 4 – W-307R Constant-Rate Test Drawdown and Recovery Plot

Figure 5 – W-307R Observation Points Constant-Rate Test Drawdown and Recovery Plots

Figure 6 – M-52A Step-Rate Test Drawdown and Recovery Plot

Figure 7 – M-52A Observation Points Step-Rate Test Drawdown and Recovery Plots

Figure 8 – M-52A Constant-Rate Test Drawdown and Recovery Plot

Figure 9 – M-52A Observation Points Constant-Rate Test Drawdown and Recovery Plots

Table 1 – Well Construction Summary

Table 2 – W-307R Constant-Rate Test Summary

Table 3 – Analytical Results – W-307R

Table 4 – M-52A Step-Rate Test Summary

Table 5 – M-52A Constant-Rate Test Summary

Table 6 – Analytical Results – M-52A

Table 7 – Aquifer Test Analysis Summary

Table 8 – Summary of Aquifer Test Results

Appendix A – Aquifer Testing Field Forms

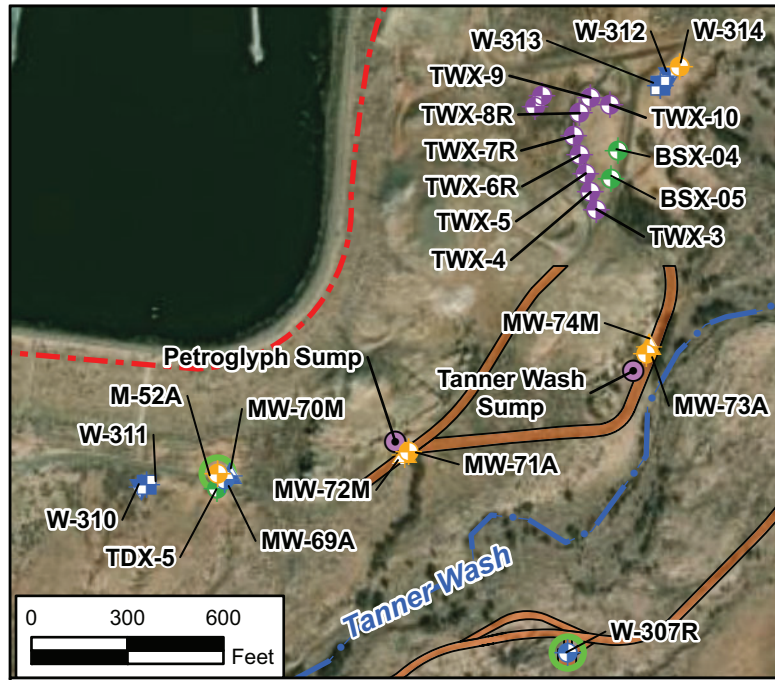
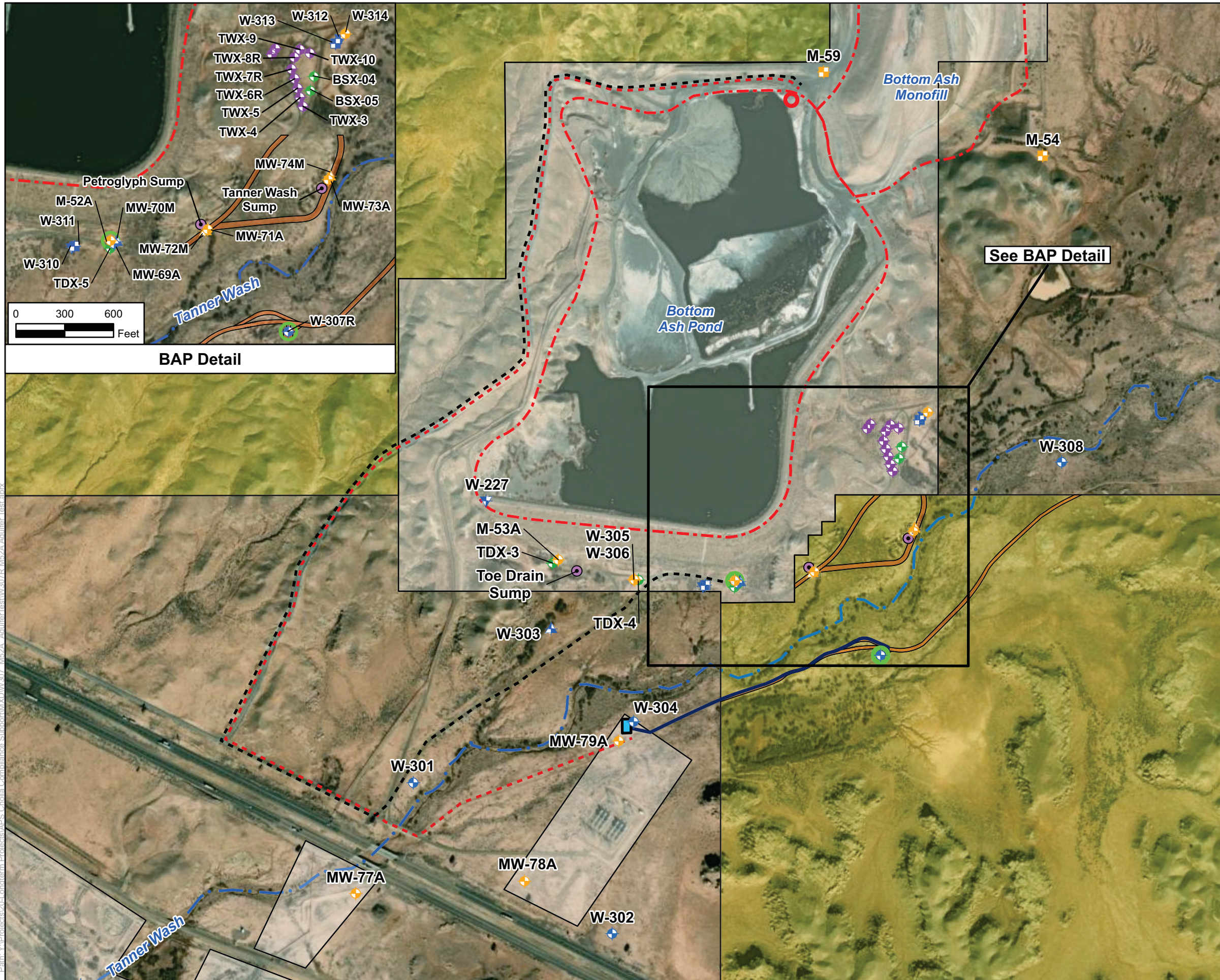
Appendix B – Laboratory Reports

Appendix C – Test Well and Observation Well Diagrams

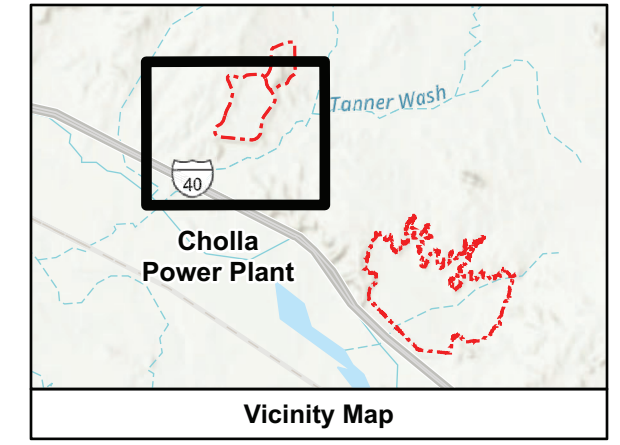
Appendix D – Aqtesolv Well Test Analysis Results

FIGURES





BAP Detail



Legend

- Approximate 12,000 Gallon Water Tank Footprint
- Wastewater Disposal Location
- Aquifer Test Wells
- HDPE Pipeline
- Disposal Route for Water Truck during W-307R Aquifer Test
- Disposal Route for Water Truck during M-52A Aquifer Test
- Approximate Extent of CCR Unit
- APS Parcels
- BLM Land
- BLM Easement
- Ephemeral Surface Water Feature
- CCR Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- Other Features
- Extraction (Inactive) Well
- Seepage Collection Sump

Notes:
 In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03.
 TWX Area is also referred to as the P-226 or B-226 area on some historical drawings and figures.



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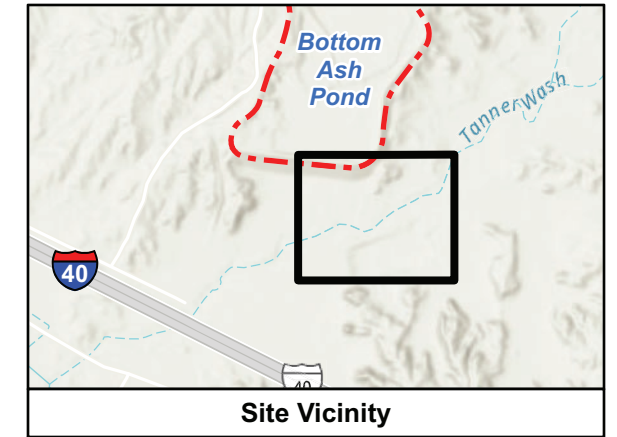
Figure 1 **Aquifer Test Site Overview Map**

Job No. 14-2022-2029
 PM: MH
 Date: 1/8/2024
 Scale: 1" = 600 feet



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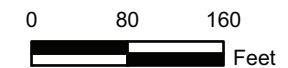
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Legend

- CCR Monitoring Well Location**
 - Alluvial Monitoring Well
 - Moenkopi Formation (Moqui Member) Monitoring Well
- Supplementary Site Monitoring Well Location**
 - Alluvial Monitoring Well
 - C-Aquifer Monitoring Well
 - Moenkopi Formation (Moqui Member) Monitoring Well
 - Moenkopi Formation (Wupatki Member) Monitoring Well
- Piezometer Location**
 - Alluvial Piezometer
 - Coconino Piezometer
 - Moenkopi Formation (Moqui Member) Piezometer
 - Piezometer, No Formation Zone Data
- Other Features**
 - Extraction (Inactive) Well
 - Seepage Collection Sump
 - Aquifer Test Observation Point
 - Aquifer Test Wells
 - Ephemeral Surface Water Feature

Notes:
 In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03



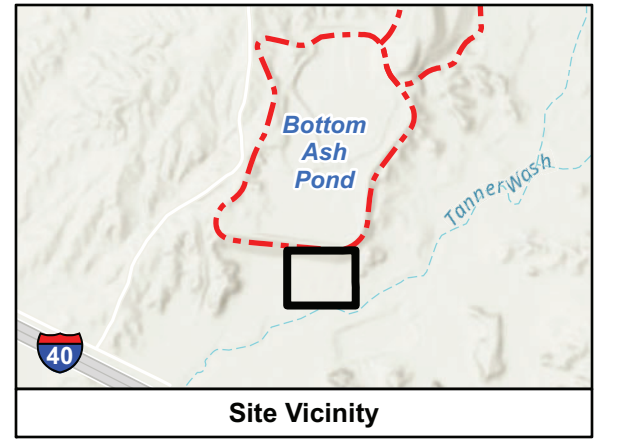
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FIGURE 2 **W-307R Aquifer Test Observation Point Map**

Job No. 14-2022-2029
 PM: MBH
 Date: 1/9/2024
 Scale: 1" = 160'



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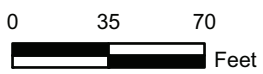


Site Vicinity

Legend

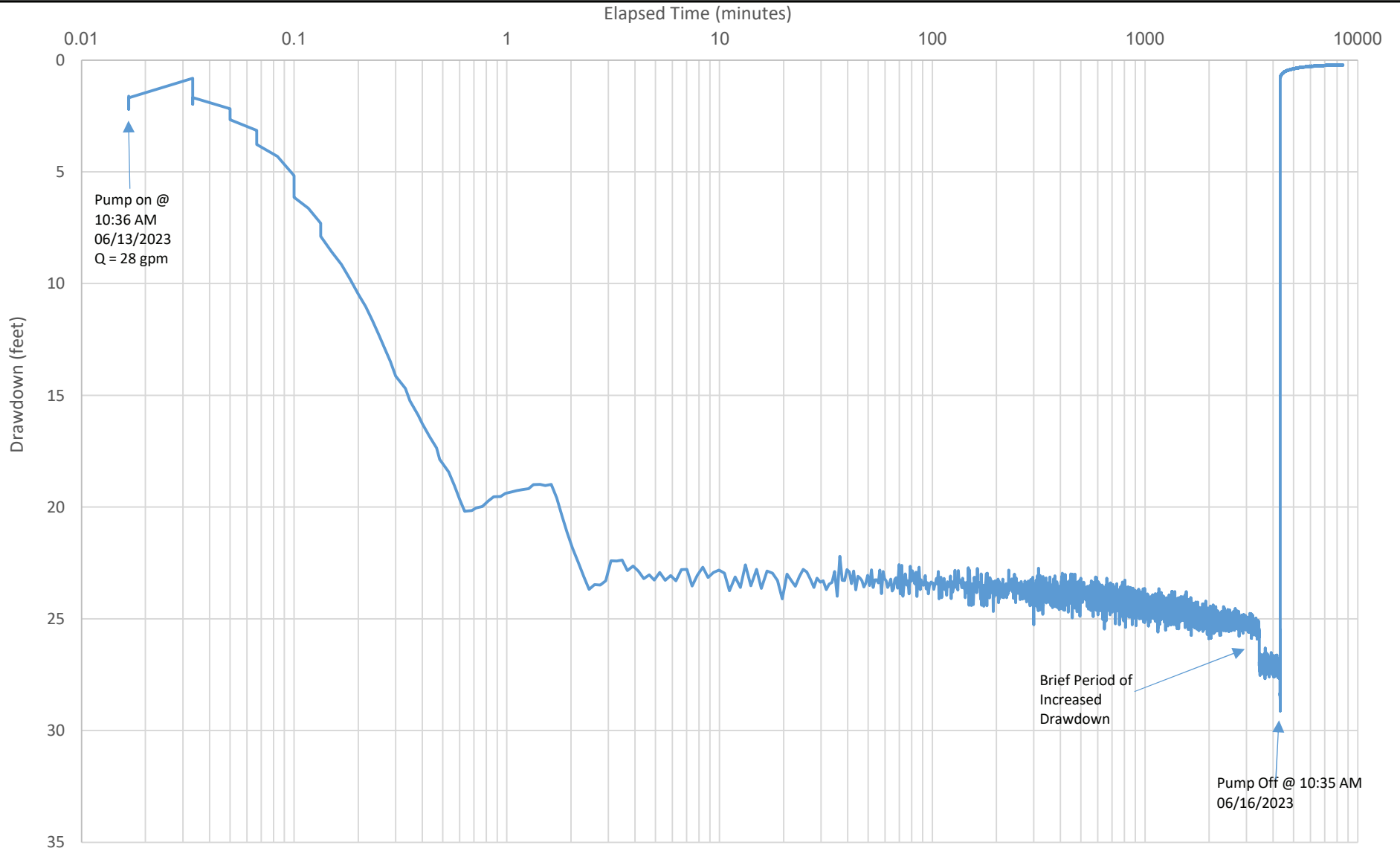
- CCR Monitoring Well Location**
 - 🟡 Alluvial Monitoring Well
- Supplementary Site Monitoring Well Location**
 - 🔵 Alluvial Monitoring Well
 - 🟦 C-Aquifer Monitoring Well
 - 🟩 Moenkopi Formation (Moqui Member) Monitoring Well
 - 🟦 Moenkopi Formation (Wupatki Member) Monitoring Well
- Piezometer Location**
 - ⬛ Alluvial Piezometer
 - ⬛ Coconino Piezometer
 - ⬛ Moenkopi Formation (Moqui Member) Piezometer
- Other Features**
 - 🟢 Extraction (Inactive) Well
 - 🟢 Aquifer Test Wells
 - 🔵 Aquifer Test Observation Point

Notes:
 In previous documents TDX-3 is also known as BSX-01, TDX-4 is also known as BSX-02, and TDX-5 is also known as BSX-03



Arizona Public Service Cholla Power Plant Navajo County, Arizona	
FIGURE 3	M-52A Aquifer Test Observation Point Map
Job No. 14-2022-2029 PM: MBH Date: 1/8/2024 Scale: 1" = 70'	
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LEGEND

— W-307R

Abbreviations:

Q = discharge
gpm = gallons per minute

CLIENT
Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
W-307R and M-52A Aquifer Testing, Bottom Ash Pond

TITLE
W-307R Constant-Rate Test Drawdown and Recovery Plot
CONSTANT-RATE PUMPING TEST
SEMI-LOG HYDROGRAPH

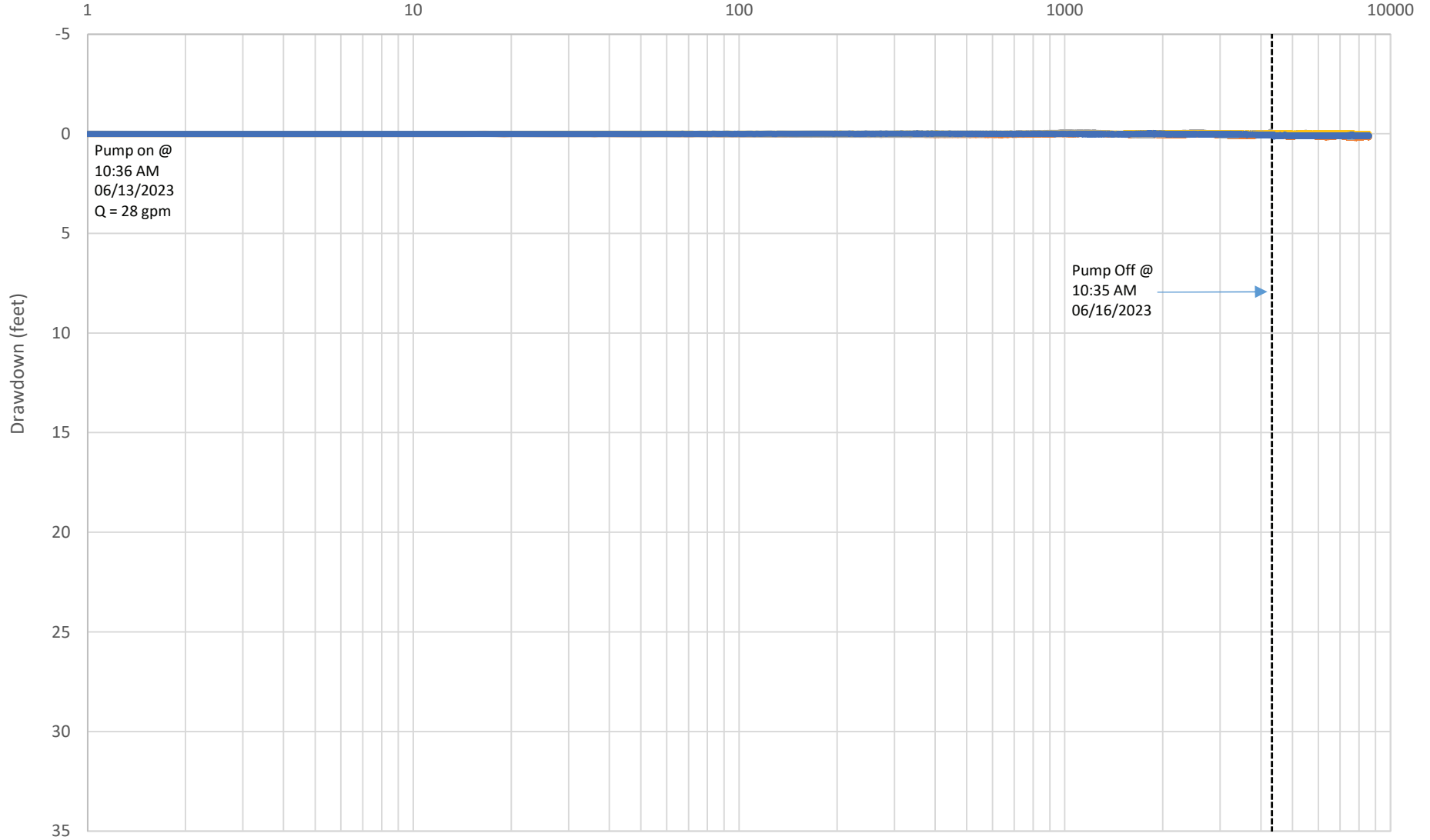
PROJECT NO.
1420222029.000

PHASE

REV.
A

FIGURE
4

Elapsed Time (minutes)



LEGEND

- MW-73A
- MW-71A
- W-304
- MW-79A

Abbreviations:
Q = discharge
gpm = gallons per minute

CLIENT
Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
W-307R and M-52A Aquifer Testing, Bottom Ash Pond

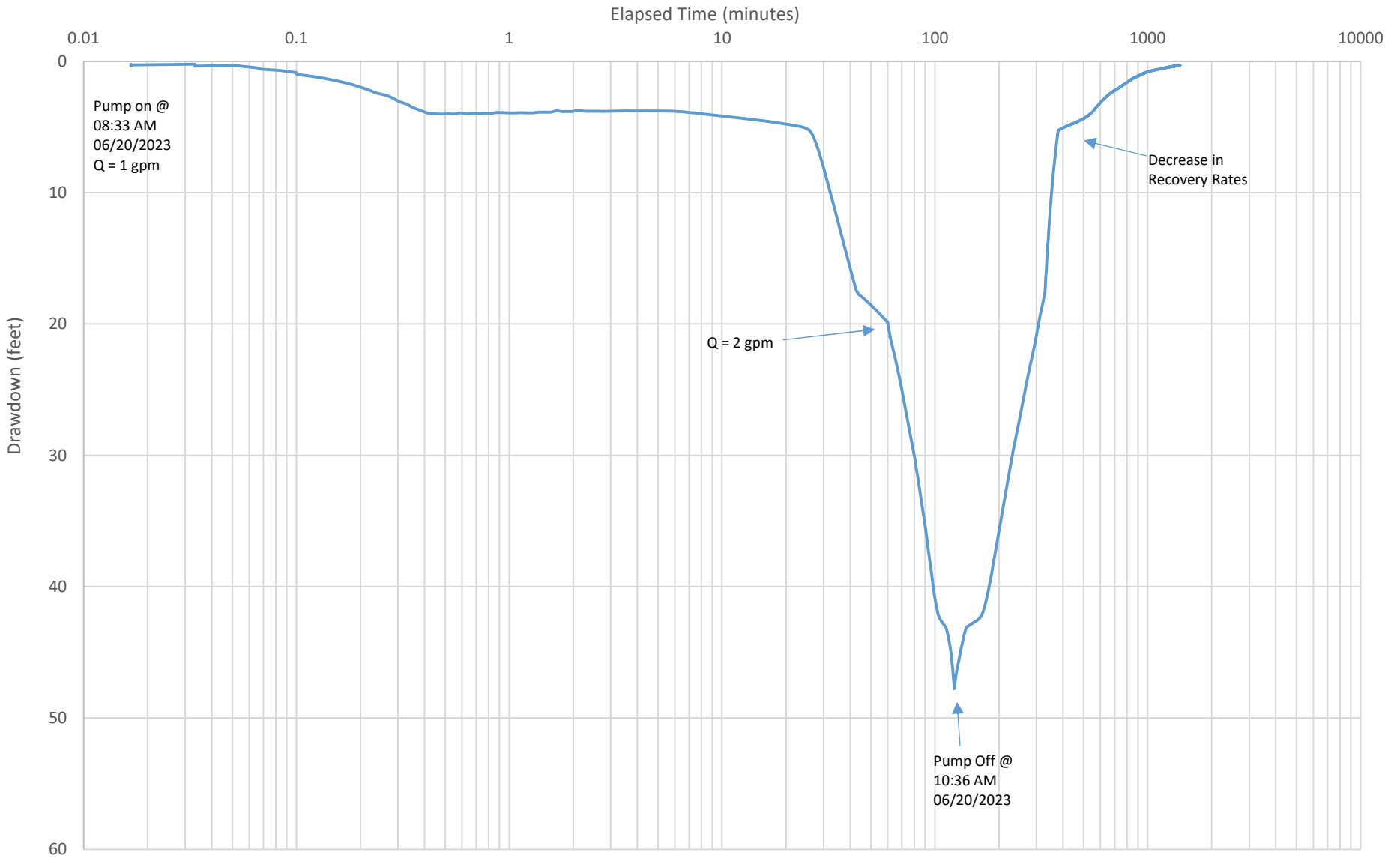
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CONSTANT-RATE PUMPING TEST
SEMI-LOG HYDROGRAPH

PROJECT NO.
1420222029.000

PHASE

REV.
A

FIGURE
5



LEGEND

— M-52A

Abbreviations:
 Q = discharge
 gpm = gallons per minute

CLIENT
 Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
 W-307R and M-52A Aquifer Testing, Bottom Ash Pond

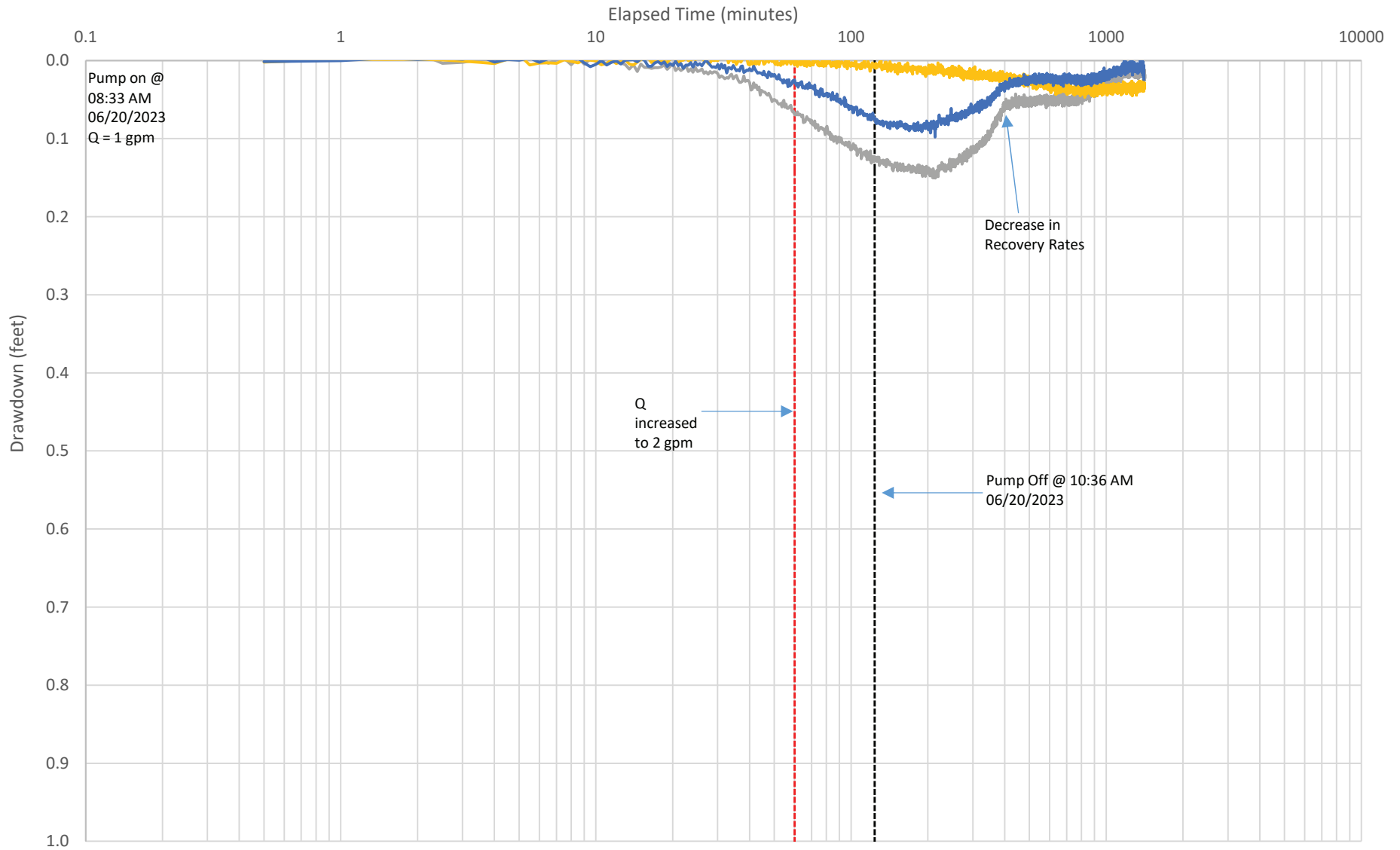
TITLE
M-52A Step Rate Test Drawdown and Recovery Plot
Step Rate Pumping Test
SEMI-LOG HYDROGRAPH

PROJECT NO.
 1420222029.000

PHASE

REV.
 A

FIGURE
6



LEGEND

- TDX-5
- MW-69A
- M-70M

Abbreviations:
Q = discharge
gpm = gallons per minute

CLIENT
Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
W-307R and M-52A Aquifer Testing, Bottom Ash Pond

TITLE
M-52A Observation Points Step-Rate Test Drawdown and Recovery Plot
STEP RATE PUMPING TEST
SEMI-LOG HYDROGRAPH

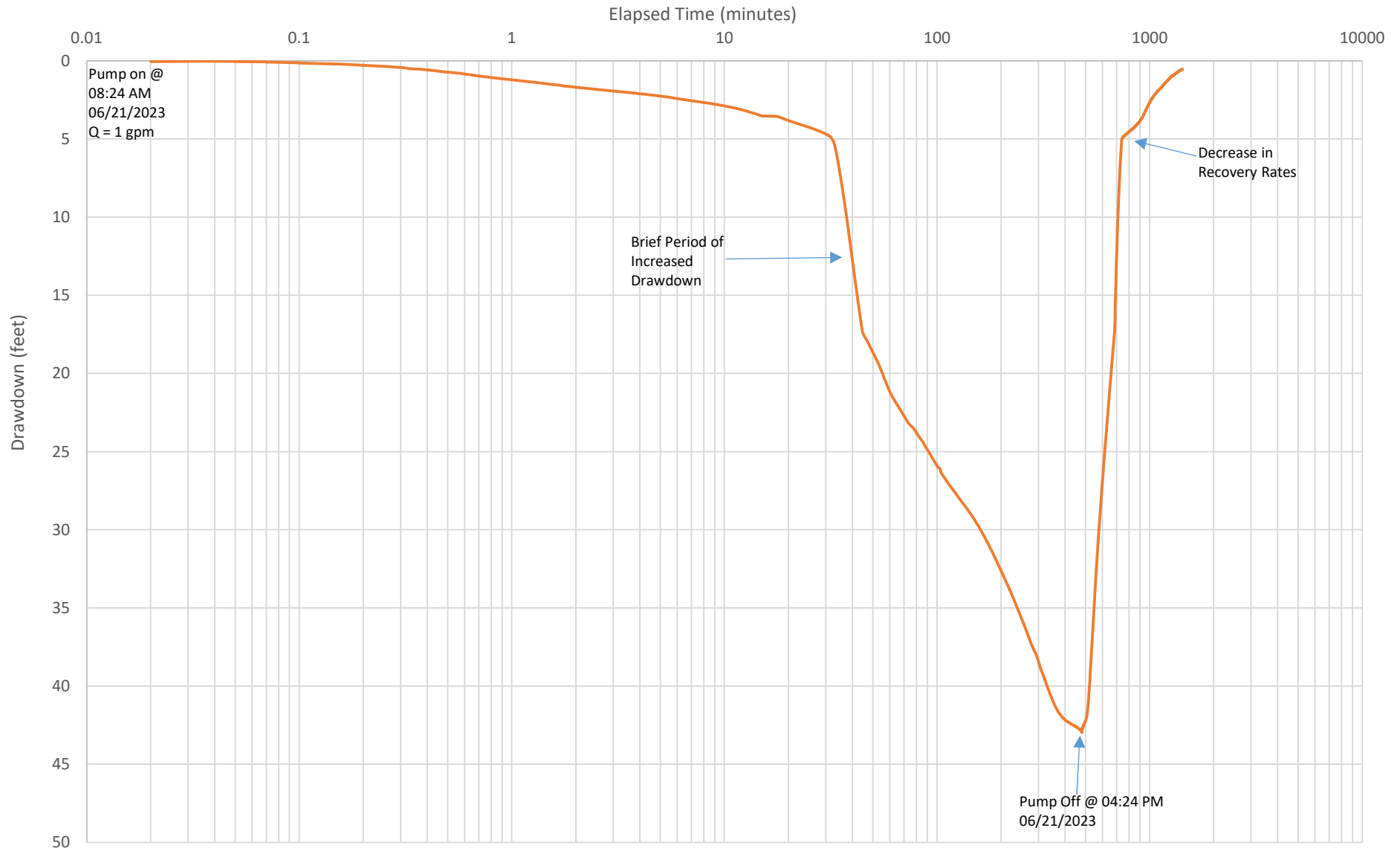
PROJECT NO.
1420222029.000

PHASE

REV.
A

FIGURE
7

1 in. IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A



LEGEND

— M-52A

Abbreviations:
Q = discharge
gpm = gallons per minute

CLIENT
Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
W-307R and M-52A Aquifer Testing, Bottom Ash Pond

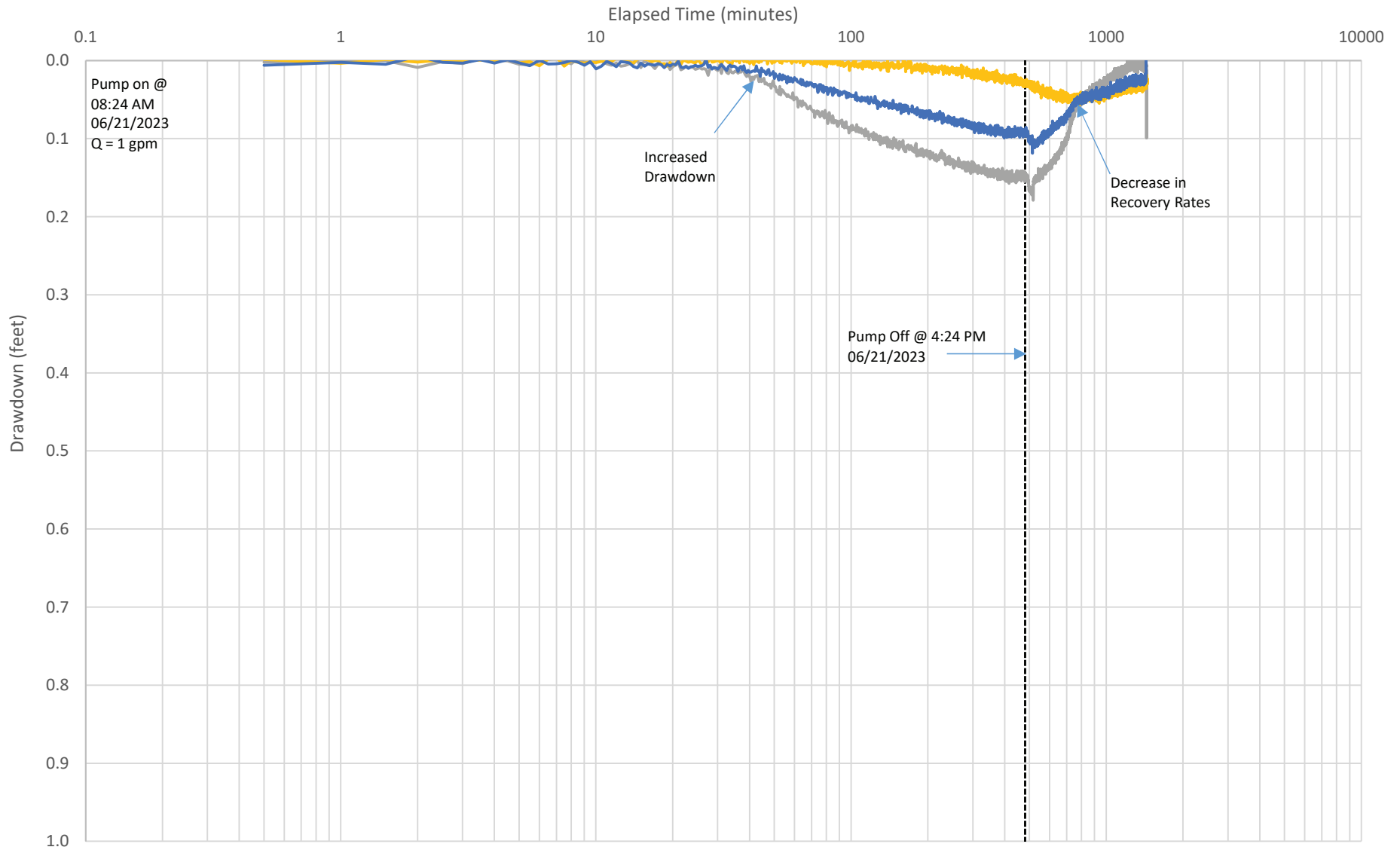
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M-52A Constant-Rate Test Drawdown and Recovery Plot
CONSTANT-RATE PUMPING TEST
SEMI-LOG HYDROGRAPH

PROJECT NO.
1420222029.000

PHASE

REV.
A

FIGURE
8



LEGEND

- TDX-5
- MW-69A
- M-70M

Abbreviations:
 Q = discharge
 gpm = gallons per minute

CLIENT
 Arizona Public Service Company

CONSULTANT



Date	11/20/2023
DESIGNED	BDE
PREPARED	BDE

PROJECT
 W-307R and M-52A Aquifer Testing, Bottom Ash Pond

TITLE **M-52A Observation Points Constant-Rate Test Drawdown and Recovery Plot**
 CONSTANT-RATE PUMPING TEST
SEMI-LOG HYDROGRAPH

PROJECT NO.
 1420222029.000

PHASE

REV.
 A

FIGURE
9

TABLES

Table 1
Well Construction Summary

Well	55 Number	Date Installed	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Northing (ft)	Easting (ft)	Top of Casing Elevation (ft amsl)	Ground Surface Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Top of Screen Elevation (ft amsl)	Bottom of Screen Elevation (ft amsl)	Bottom of borehole (ft amsl)	Well Diameter (in)	PVC Sump (ft)	Final Well Purpose	Completion Aquifer
Pumping Wells																		
M-52A	918657	9/22/2015	83	70	1437475.71	663614.27	5049.36	5047.08	20	70	50	5027.08	4977.08	4964.08	4	0	Monitor Well	Tanner Wash Alluvium
W-307R	55-926816	10/4/2021	67	65	1437018.69	664515.77	5047.61	5045.26	35	65	30	5,010.26	4,980.26	4,978.26	4	N/A	Monitor Well	Tanner Wash Alluvium
Observation Wells																		
BSX-03	926100	5/5/2021	84	81	1437438.71	663617.45	5050.67	5049.37	36.0	76.0	40.0	5013.37	4973.37	4965.37	6	5.0	Extraction Well	Tanner Wash Alluvium/Moenkopi Formation (Moqui Member)
MW-69A	923618	11/20/2019	27	27	1437462.11	663637.50	5050.74	5049.25	17	27	10	5032.25	5023.74	5022.25	3	0	Monitor Well	Tanner Wash Alluvium
MW-70M	923582	11/22/2019	78	76	1437468.04	663648.64	5051.12	5049.80	46	76	30	5003.8	4975.119	4972.3	3	0	Monitor Well	Moenkopi Formation (Moqui Member)
MW-71A	926812	9/28/2021	30.5	30	1437532.71	664108.67	5050.15	5050.68	15.0	25.0	10.0	5035.68	5025.68	5020.18	6	5.0	Monitor Well	Tanner Wash Alluvium
MW-73A	926813	9/23/2021	26	26	1437781.10	664718.60	5049.19	5046.66	11.0	21.0	10.0	5035.66	5025.66	5020.66	6	5.0	Monitor Well	Tanner Wash Alluvium
MW-79A	926106	5/20/2021	177	165.5	1436491.72	662905.52	5040.30	5038.00	135.0	165.0	30.0	4903.00	4873.00	4861.00	4	0.5	Monitor Well	Tanner Wash Alluvium
W-304	506370	10/26/1983	159	58	1436606.03	662995.59	5038.60	5036.10	34	54	20	5,002.10	4,982.10	4,978.10	5	4.00	Monitor Well	Tanner Wash Alluvium

Notes:

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

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

Vertical datum is North American Vertical Datum 1988

Abbreviations:

amsl - above mean sea level

bgs - below ground surface

BAP - Bottom Ash Pond

ft - feet

in - inches

Table 3
Analytical Results - W-307R

Location ID	Sample Date	Field Sample ID	Sample Time	Constituent	Appendix III				Appendix IV	Additional Analysis								Field Parameters*							
					Boron	Calcium	Chloride	Sulfate	Cobalt	Aluminum	Iron	Magnesium	Potassium	Sodium	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Total Dissolved Solids	Temperature	pH	Specific Conductance	Dissolved Oxygen	Oxidation Reduction Potential	Turbidity
					Units																°C	S.U.	us/cm	mg/L	mV
				BAP BTV	1.3	740	5,700	5,100	0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
				BAP GWPS	NA	NA	NA	NA	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
W-307R	06/13/2023	CRT1-W307R-0623	11:38		3.4	870	--	--	0.054	0.43	<0.01	200	5.9	2200	--	--	--	--	--	--	7.11	9.66	5.58	176.2	1.31
W-307R	06/14/2023	CRT2-W307R-0623	22:36		2.9	780	--	--	0.054	0.33	<0.01	170	4.9	2000	--	--	--	--	--	--	6.83	9.47	6.64	207.6	6.63
W-307R	06/16/2023	CRT3-W307R-0623	9:34		2.9	750	2400	2900	0.049	0.3	<0.01	160	4.8	1900	120	<6	<6	<6	7900	16.1	6.89	9.36	5.18	162.9	1.48
Historical Data																									
W-307R	04/19/2023	CH-CCR-W307R-0423	12:16		2.8	710	2,400	2,800	0.063	--	< 0.5	150	4.5	1,900	120	< 6	--	--	--	15.7	6.99	6796	1.19	4.8	0.48
W-307R	10/24/2022	CH-CCR-W307R-1022	15:37		2.8	790	2,500	2,900	0.054	--	0.15	170	3.4	2,200	130	< 6	--	--	--	16.9	7.14	12478	-0.02	-20.8	0.57
W-307R	05/04/2022	CH-CCR-W307R-0522	9:35		2.8	700	2,700	2,900	0.060	--	< 0.12 U	160	4.4	1,900	150	< 6	--	--	--	16.6	6.94	11080	0.3	11.5	1.58

Abbreviations:

- % - percent
- °C - Degrees Celcius
- BTV - Background Threshold Value
- CEC - Cation Exchange Capacity
- ft - feet
- GWPS - Groundwater Protection Standard
- mg/L - Milligrams per Liter
- mV - Millivolts
- NA - Not Applicable
- NTU - Nephelometric Turbidity Unit
- S.U. - Standard Units
- us/cm - MicroSiemens per Centimeter

Note:

* Collected at the time of sample collection

Table 6
Analytical Results - M-52A

Location ID	Sample Date	Field Sample ID	Sample Time	Constituent	Appendix III	Appendix IV	Field Parameters*						
					Boron	Cobalt	Temperature	pH	Specific Conductance	Dissolved Oxygen	Oxidation Reduction Potential	Turbidity	
					Units		°C	S.U.	us/cm	mg/L	mV	NTU	
					BAP BTV	BAP GWPS	NA	NA	NA	NA	NA	NA	
M-52A	06/21/2023	M52A-CRT1-0623	8:34		4.3	0.038	19.7	7.16	12203	4.71	159.5	9.81	
M-52A	06/21/2023	M52A-CRT2-0623	11:46		4.3	0.048	24.6	7.28	11441	5.02	48.6	557	
M-52A	06/21/2023	M52A-CRT3-0623	16:05		4.6	0.038	23.3	7.12	12648	3.92	-0.3	77	
Historical Data													
M-52A	04/19/2023	CH-CCR-M52A-0423	11:02		4.6	0.038	16.5	6.7	11663	1.15	-61.4	3.79	
M-52A	10/24/2022	CH-CCR-M52A-1022	10:20		3.6	0.056	17.1	6.89	14156	0	-54.8	3.66	
M-52A	05/04/2022	CH-CCR-M52A-0522	12:22		3.9	0.049	18.2	6.59	14630	0.09	-26.8	4.82	

Abbreviations:

- % - percent
- °C - Degrees Celcius
- BTV - Background Threshold Value
- CEC - Cation Exchange Capacity
- ft - feet
- CWPS - Groundwater Protection Standard
- mg/L - Milligrams per Liter
- mV - Millivolts
- NA - Not Applicable
- NTU - Nephelometric Turbidity Unit
- S.U. - Standard Units
- us/cm - MicroSiemens per Centimeter

Note:

* Collected at the time of sample collection

Table 7
Aquifer Test Analysis Summary

Pumping Well Completion Aquifer	Analytical Solution	Observation Point	Transmissivity				Storativity		Saturated Thickness (ft)	Hydraulic Conductivity		
			(ft ² /d)	(gpd/ft)	Average (ft ² /d)	Most- Applicable Value (gpd/ft)	(dimensionless)	Most Applicable (dimensionless)		(ft/d)	Average (ft/d)	Most- Applicable Value (f/d)
W-307R Tanner Wash alluvium	Theis Recovery	Pumping Well W-307R	5,115.8	38,266.2	2,128.8	38,266.2 ¹	0.08 ²	0.08 ²	45.1	113.3	47.2	113.3 ¹
	Hantush-Jacob Drawdown	Pumping Well W-307R	126.3	944.7			5.1E-08			2.8		
	Cooper Jacobs Drawdown (unconfined)	Pumping Well W-307R	1,144.2	8,558.6			2.2E-17			25.3		
M-52A Tanner Wash Alluvium/Moenkopi Formation (Moqui Member)	Theis Recovery	M-52A*	1.2	9.1	169.6	1,119.8 ³	1.4 ²	0.05 ³	54.7	2.2E-02	3.1	2.7 ³
		MW-70M	179.2	1,340.4			1.1 ²			3.3		
		TDX-5	109.7	820.6			1.52 ²			2.0		
	Hantush-Jacob Drawdown	MW-70M, MW-69A, TDX-5	179.7	1,344.2			3.2E-02			3.3		
		TDX-5, MW-70M	157.7	1,179.6			0.142			2.9		
		MW-70M	160.1	1,197.5			2.6E-02			2.9		
	Cooper Jacobs Drawdown (unconfined)	TDX-5	101.3	757.7			9.2E-03			1.9		
		MW-70M	277.3	2,074.2			2.0E-02			5.1		
	Theis - Unconfined	TDX-5	196.9	1,472.8			7.2E-03			3.6		
		MW-70M	180.8	1,352.4			2.7E-02			3.3		
		TDX-5	153.1	1,145.2			8.9E-03			2.8		

Abbreviations:

- d - day
- ft - foot/feet
- gpd - gallons per day
- gpm - gallons per minute
- N/A - not applicable

Notes:

- * Test analysis is not used in total average calculations
- ¹ Value is from the Theis Recovery analytical solution
- ² Value is the ratio of storativity during pumping to storativity during recovery



A AQUIFER TESTING
FIELD FORMS

Constant-Rate Aquifer Test Form



Well ID: W307R

Date(s): 6/13/23

Field Personnel: H. Dragon B. Hartman

Project Name: W307R AQ CRT

Project Number: 1420232029

Pump Agency and Operator: <u>Myers Well & Pump</u>				Test Duration: <u>72 hrs</u>				Well Depth: <u>65' bgs</u>		Static Water Level: <u>22.69 ft bTOC</u>	
Observation Wells: <u>MW79A, MW71A, MW73A, W309</u>				<u>Initial Transducer Depth (gnat10) = 41.373</u>				Screen Interval:		Measuring Point/Stick Up: <u>2.93 ft bTOC</u>	
Pump size, capacity, make: <u>SN: 1001453</u> <u>40 gpm max MODEL: B/DP2</u>				Transducer Model/SN: <u>in-still level TROLL</u> <u>S/M: 979431</u>				Pump Depth: <u>63' bgs</u>		Pump On (date/time):	
Totalizer Model/SN: <u>Transducer set depth = 64.06' bTOC</u>				Transducer Test Name: <u>W307R-CRT-20230613</u>				Well Diameter:		Pump off (date/time):	
Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks	
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft		
<u>6/13/23</u>	<u>10:30</u>	<u>0</u>	<u>22.69</u>	<u>15.40</u>		<u>00052</u>		<u>20</u>		<u>MYERS dialed flow back</u>	
	<u>10:37</u>	<u>7^{HD}</u>	<u>38.15</u>	<u>15.40</u>		<u>00052</u>		<u>20</u>	<u>1.68</u>	<u>MYERS dialed flow up</u>	
	<u>10:39</u>	<u>9^{HD}</u>				<u>00053</u>		<u>30</u>			
	<u>10:39</u>	<u>3</u>				<u>00053</u>		<u>31</u>		<u>MYERS dialed flow down</u>	
	<u>10:40</u>	<u>4</u>	<u>38.93</u>	<u>16.24</u>		<u>00053</u>		<u>29.3</u>	<u>1.80</u>		
	<u>10:41</u>	<u>5</u>				<u>00054</u>		<u>32</u>		<u>flow increased</u>	
	<u>42</u>	<u>6</u>				<u>00054</u>		<u>31</u>		<u>flow decreased</u>	
	<u>43</u>	<u>7</u>	<u>38.42</u>			<u>00054</u>		<u>30</u>		<u>I</u>	
	<u>44</u>	<u>8</u>	<u>38.45</u>	<u>15.76</u>		<u>00054</u>		<u>29.6</u>	<u>1.87</u>		
	<u>45</u>	<u>9</u>	<u>38.45</u>			<u>00055</u>		<u>29.8</u>		<u>flow increased</u>	
	<u>46</u>	<u>10</u>	<u>38.47</u>	<u>15.78</u>		<u>00055</u>		<u>30</u>	<u>1.90</u>		
	<u>47</u>	<u>11</u>				<u>00055</u>		<u>31.2</u>		<u>flow increased</u>	
	<u>48</u>	<u>12</u>	<u>38.47</u>	<u>15.78</u>						<u>switching sounder</u>	

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/13/23	10:49	13				00056		32		flow increased shut pump off in storage tank
	10:50	14	39.45	15.70		00056		29.3	1.85	flow decreased
	10:51	15				00054		29.4		↓
	10:52	16				00057		29.2		flow decreased
	10:53	17	39.45	15.70		00057		28	1.77	↓
	10:54	18	39.45	↓		00057		28	1.77	↓
	10:55	19	39.47	15.78		00058		29	1.83	flow increased
	10:56	20	39.47	↓		00058				
	10:57	21	39.47	↓		00058		27.8	1.70	flow decreased
	10:58	22	39.48	15.79		00059		27.8 27.8	1.77	flow increased
	10:59	23	39.45	15.70		00059		28	1.77	
	11:00	24	39.45	↓		00059		27.9	1.76	slight decrease in flow
	11:01	25	39.45	↓		00059		27.8	1.76	
	11:02	26	39.47	15.78		00059		28	1.77	slight increase
	11:03	27	39.48	15.79		00060		28	1.77	
	11:04	28	39.45	15.70		00060		28		
	11:05	29	39.48	15.79		00060		28		
	11:06	30	39.49	↓		00060		27.6		slight decrease
	11:07	31	39.45	15.70		00061		28		slight increase
	11:08	32	39.45	↓		00061		28		
	11:09	33	39.45	↓		00061		28		switching sounder
	11:10	34				00062		29		

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
0/13/23	1111	35				00062		29		sounder has been picking up cascading water.
	1112	36				00062		29		
	1113	37				00062		29		
	1114	38				00063		29		
	1115	39				00063		29		cascading water is throwing off sounder readings, will need to rely on transducer
	1116	40				00063		29		
	1117	41	41.10	10.41		00063		29	1.52	
	1118	42								
	1119	43				00064		29		
	1120	44				00064				
	1121	45								
	1125	49						28		
	1126	50						28		
	1127	51								
	1128	52								
	1129	53								
	1130	54						28		WL still unable to be measured
	1131	55								
	1132	56	38.95	15.70		00068		29.4	1.86	slight increase in flow switched sounder
	1133	57	39.95	I		00068	44	29	1.77	slight decrease
	1134	58	39.95	I		00068		29	I	
	1135	59	39.95	I		00069			I	

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water (Sounding)	Drawdown	Transducer Reading Flow Rate (vol. meas.) <i>depth</i>	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
4/13/23	1138	62			28			28		sample collected @ 1138
	1141	65			28	00070		28		
	1142	66								
	1147	67						28.8		
	1145	68						28.0		
	1146	69	38.47	15.78				28	1.77	turned pump on - intank
	1149	70						28.0		
	1150	71	38.45	15.70		00073		28.0	1.77	
	1151	72				00073		28		
	1155	76	38.47	15.78	17.744	00074		28	1.77	
	12:00	81	38.46	15.77		00075		28	+	flow increased
	12:01	82	38.46		18.917	00076		29		
	02	83	38.46			00076		28.3		flow decreased
	03	84	38.46			00076		27.6		flow decreased
	04	85	38.46			00077		28		flow increased
	05	86	38.46			00077		28		
	06	87	38.46			00077		27.6		flow decreased
	07	88	38.45	15.70		00077		27.6	1.74	
	08	89	38.46	15.77	17.929	00078		28	1.77	flow increased
	09	90	38.46		18.975	00078		28		
	10	91	38.45	15.70	18.908	00078		28		
	11	92	38.45		17.960	00078		28		pump in storage tank

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Totalizer Flow Rate <small>(vol. meas. reading depth)</small>	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
4/13/23	12:34	115	38.96	15.77	18.282	00085		28		
	35	116	38.96		17.733					
	36	117	38.96		18.419	00085		28		
	37	118	38.96			00086		28		
	38	119	38.96		18.015	00086		28		
	39	X120	38.97	15.78	19.073	00090		28		
	40	X121	38.97		17.943	00086		28		
	12:48	129	38.95	15.76		00089		28		MYERS SHOT PUMP IN TANK OFF
	12:55	135	38.96	15.77	17.711	00091		28		MYERS TUNED PUMP IN TANK ON
	12:58	136 HD 140	38.98	15.79	17.677	00091		28		
	13:00	140	38.98		18.493	00092		28		
	13:15	155	38.99		17.768	00096		28		WSP CHECKED PIPELINE: LOOKS GOOD
	13:30	170 HD	38.97	15.78	17.923	00100		28		PUMP IN TANK ON @ 13:23
	13:45	195	38.95	15.76	18.332	00104		28		PUMP IN TANK ON @ 13:45
	14:00	200	38.95		17.799	00108		28		WSP CHECKED PIPELINE: LOOKS GOOD
	14:15	215	38.97	15.78	17.904	00112		28		PUMP IN TANK ON @ 14:10
	14:30	230	38.95	15.76	18.181	00116		28		CHECKED PIPELINE: 23 MALL LEAKS, MYERS WILL PATCH UP & HAS MORE ABSORBANT PADS COMING
	14:45	245	38.97	15.78	17.779	00120		28		PUMP IN TANK ON @ 14:39
	14:50	250	38.96	15.77		00123		28		PUMP IN TANK OFF @ 14:45
	14:55	255	38.98	15.79		00123		28		
	15:00	260	38.97	15.78	17.331	00124				CHECKED PIPELINE: SAME LEAKS MYERS TUNED PUMP IN TANK ON @ 14:59
	15:05	265	38.99	15.79		00125		28		

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (vol. meas. reading depth)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/13/23	1212	93	38.45	15.76	17.765	00079		28		
	13	94	38.47	15.79	18.045	00079		28		
	14	95	38.45	15.76	17.966	00079		28		
	15	96	38.46	15.78	17.745	00080		28		
	16	97	38.45	15.76	17.945	00080		28		
	17	98	38.49	15.79						Meters down 10min intervals for
	18	99	38.46	15.77	17.822	00080		28		
	19	100	38.45	15.76	17.809	00081		28		
	20	101	38.46	15.77	18.092	00081		28		
	21	102	38.45	15.76	17.806					
	22	103								PUMP in tank off
	23	104	38.46	15.77		00082		28		
	24	105	38.45	15.76	18.013	00082		28		
	25	106	38.45		17.152	00082		28		
	26	107	38.46	15.77	17.662	00083		28		
	27	108	38.45	15.76	18.081	00083		28		
	28	109	38.45		18.209	00083		28		
	29	110								
	30	111	38.47	15.78	17.569	00083		28		
	31	112	38.45	15.76	17.887	00084		28		
	32	113	38.46	15.77	17.742	00084		28		
	33	114	38.45	15.76	17.963	00084		28		Meters turned on Pump in tank

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (vol. meas.) <i>Readings depth</i>	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
10/13/23	15:10	270	38.46	15.77		00127		28		
	15:15	275	38.48	15.79	18.214	00128		28		PUMP IN TANK OFF @ 15:12
	15:20	280	38.47	15.78		00130		28		PUMP IN TANK ON @ 15:23
	15:25	285	38.47			00131		28		
	15:30	290	38.46	15.77	17.965	00132		28		CHECKED PIPELINE: SAME LEAKS
	15:45	305	38.46		17.078	00136		28		PUMP OFF IN TANK: 15:25
	16:15	335	38.47	15.78	17.669	00144		28		HD LEAVING TO GO BATHROOM and drove over the protected pipeline @ 15:50
	16:20	340	38.47			00146		28		PUMP IN TANK ON @ 15:50
	16:25	345	38.48	15.79		00147		28		PUMP IN TANK OFF @ 16:05
	16:30	350	38.47	15.78		00148		28		PUMP IN TANK ON @ 16:19
	16:35	355	38.47			00150		28		CHECKED PIPELINE: SAME LEAKS
	16:40	360	38.46	15.77		00151		27.6		PUMP IN TANK OFF @ 16:37
	16:45	365	38.45	15.76	17.798	00152		27.0		slight decrease in flow
	16:50	370	38.46	15.77		00153		27.0		PUMP IN TANK ON @ 16:52
	16:55	375	38.45	15.76		00155		28		flow increased a bit
	17:00	380	38.46	15.77		00156		28		CHECKED PIPELINE: SAME LEAKS
	17:05	385	38.45	15.76		00158		28		
	17:10	390	38.47	15.78		00159		28		PUMP IN TANK IS OFF @ 17:12
	17:15	395	38.47		17.866	00160		28		
	17:30	410	38.47		18.836	00165		28		PUMP IN TANK IS ON @ 17:31
	17:45	425	38.47		19.106	00168		28		PUMP IN TANK IS OFF @ 17:50
	19:00	440	38.47		17.676	00173		28		

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (not meas'd) readings depth	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
--	--	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/13/23	18:30	470	38.47	15.78	17.978	00181	30	28	1.7744	PUMP IN TANK ON AT 18:05 PUMP IN TANK OFF @ 18:18
	19:00	500	38.48	15.79	18.000	00189		28	1.7733	PUMP IN TANK ON @ 18:34
	19:30	530	38.49	15.80	17.040	00196		28	1.7722	Tank pump on 1933 tank pump off 1946 walk the line
	2000 2000	560	38.44	15.75	17.300	00204		28	1.7777	Tank pump on 2027 tank pump off 2041
	2030	590	38.44	15.75	17.240	00212		28	1.7777	-tank pump on 2055 -tank pump off 2106
	2100	620	38.44	15.75	17.180	00220		28	1.7772	-tank pump on 2118 -tank pump off 2131
	2130	650	38.43	15.74	17.05	00228		28	1.7784	
	2200	680	38.45	15.76	17.12	00236		28	1.7764	-tank pump on 2210 -tank pump off 2224
	2230	710	38.44	15.75	17.14	00244		28	1.7772	walk the line
	2300	740	38.44	15.75	17.21	00250		28	1.7772	
↓	2330	770	38.43	15.74	17.13	00260		28	1.7784	
6/14/23	0000	800	38.43	15.74	17.35	00268		28	1.7784	walk the line
	0030	830	38.44	15.75	17.23	00276		28	1.7772	
	0100	860	38.44	15.75	17.15	00284		28	1.7777	
	0130	890	38.45	15.76	17.30	00292		28	1.7766	
	0200	920	38.44	15.75	17.18	00300		28	1.7777	-tank pump on 0202 -tank pump off 0225
	0230	950	38.43	15.74	17.11	00308		28	1.7784	-tank pump on 0232 -tank pump off 0248
	0300	980	38.44	15.75	17.40	00316		28	1.7777	-tank pump on 0301 -tank pump off 0314
	0330	1010	38.44	15.75	17.14	00323		28	1.7777	walk the line
	0400	1040	38.43	15.74	17.20	00331		28	1.7789	
	0430	1070	38.43	15.74	17.01	00339		28	1.7789	
↓	0500	1100	38.44	15.75	17.12	00347	↓	28	1.7777	

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transformer Flow Rate (Vol. meas.) DEPTH	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/14/23	0530	1130	38.43	15.74	16.85	00355	30	28	1.7789	TRANK Pump G. 6591 at off 0605
	0600	1160	38.44	15.75	16.89	00363	30	28	1.7777	WALK THE LINE
	0630	1190	38.44	15.75	16.96	00371	30	28	1.7777	TRANK PUMP ON 0647
	0700	1220	38.43	15.74	16.92	00378	30	28	1.7789	PUMP ON @ 0718 PUMP OFF @ 0734
	0730	1250	38.44	15.75	16.984	00386	30	28	1.7777	PUMP ON @ 0749 PUMP OFF @ 0805
	0800	1280	38.44	15.75	16.966	00394	30	28	1.7777	WALK THE LINE MVEES ADJUSTIN PIPELINE THAT MOVED IN TC ROAD.
	0830	1310	38.43	15.74	17.450	00402	30	28	1.7789	PUMP ON @ 0821 MVEES CHECKING SEDIMENT STRAIN.
	0900	1340	38.43	15.74	16.909	00411	30	28	1.7789	PUMP OFF @ 0841 PUMP ON @ 0859
	0930	1370	38.43	15.74	17.280	00418	30	28	1.7789	PUMP OFF @ 0915 WALKED THE LINE PUMP ON @ 0929
	1000	1400	38.43	15.74	16.767	00425	30	28	1.7789	PUMP OFF @ 0943 PUMP ON @ 10:02
	1030	1430	38.44	15.75	16.691	00433	30	28	1.7777	PUMP OFF @ 10:28 WALKED THE LINE PUMP ON @ 10:35
	1100	1460	38.44	15.75	16.839	00442	30	28	1.7777	PUMP OFF @ 10:52 PUMP ON @ 11:08
	1130	1490	38.43	15.74	16.991	00449	30	28	1.7789	PUMP OFF @ 1120 WALKED THE LINE PUMP ON @ 1145
	1200	1520	38.44	15.75	16.767	00457	30	28	1.7777	PUMP OFF @ 1203 PUMP ON @ 1217
	1230	1550	38.43	15.74	14.355	00465	30	28	1.7789	PUMP OFF @ 1233 WALKED THE LINE PUMP ON @ 1251
	1300	1580	38.43	15.74	16.718	00473	30	28	1.7789	PUMP OFF @ 1312 PUMP ON @ 1328
	1330	1610	38.43	15.74	16.679	00480	30	28	1.7789	PUMP OFF @ 1349 WALKED THE LINE PUMP ON @ 1405
	1400	1640	38.44	15.75	14.547	00488	30	28	1.7777	PUMP OFF @ 1428
	1430	1670	38.44	15.75	14.319	00496	30	28	1.7777	PUMP ON @ 1447 WALKED THE LINE
	1500	1700	38.43	15.74	16.367	00504	30	28	1.7789	PUMP OFF @ 1500 PUMP ON @ 1529
	1530	1730	38.44	15.75	16.366		30	28	1.7777	PUMP OFF @ 1543
	1600	1700	38.44	15.75	16.651	000519	30	28	1.7777	PUMP ON @ 16:00 PUMP OFF @ 16:19

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	TRANSDUCER DEPTH Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/14/23	1630	1790	38.44	15.75	16.391	00527	30	28	1.7777	PUMP ON @ 16:35 PUMP OFF @ 16:42
	1700	1820	38.44	15.75	16.358	00535	30	28	1.7777	PUMP ON @ 17:00 PUMP OFF @ 17:29
	1730	1850	38.44	15.75	16.318	00543	30	28	1.7777	PUMP ON @ 17:30 PUMP OFF @ 17:53
	1800	1900	38.44	15.75	16.736	00551	30	28	1.7777	PUMP ON @ 18:00 PUMP OFF @ 18:29
	1830	1910	38.44	15.75	16.055	00559	30	28	1.7777	PUMP ON @ 18:30 PUMP OFF @ 18:55
	1900	1940	38.44	15.75	16.513	00566	30	28	1.7777	Pump on 19:04 Pump off 19:18
	1934	1947	38.44	15.75	16.617	00575	34	28	1.7777	Pump on 19:33 Pump off 19:46
	2007	2000	38.44	15.75	16.1747	00582	26	28	1.7777	Pump on 19:59 Pump off 20:12
	2030	2030	38.44	15.75	16.2778	00590	30	28	1.7777	Pump on 20:21 Pump off 20:37
	2100	2060	38.44	15.75	16.7717	00598	30	28	1.7777	Pump on 20:50 Pump off 21:03
	2130	2090	38.44	15.75	16.7764	00606	30	28	1.7777	Walk the line
	2200	2130	38.44	15.75	16.7849	00614	30	28	1.7777	
	2230	2150	38.44	15.75	16.3727	00621	30	28	1.7777	
	2300	2180	38.44	15.75	16.3470	00629	30	28	1.7777	sample @ 1036 CRT2
	2330	2210	38.44	15.75	16.6662	00637	30	28	1.7777	Pump on 22:52 Pump off 23:05
6/15/23	0000	2240	38.44	15.75	16.5509	00644	30	28	1.7777	
	0030	2270	38.44	15.75	16.2049	00652	30	28	1.7777	Pump on 12:46 Pump off 01:00
	0100	2300	38.44	15.75	16.4385	00660	30	28	1.7777	Pump on 01:10 Pump off 01:31
	0130	2330	38.44	15.75	16.2514	00668	30	28	1.7777	Walk the line
	0200	2360	38.44	15.75	16.7724	00676	30	28	1.7777	
	0230	2390	38.44	15.75	16.2124	00683	30	28	1.7777	
	0300	2420	38.44	15.75	16.5112	00691	30	28	1.7777	
	0330	2450	38.44	15.75	16.7849	00699	30	28	1.7777	

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/15/23	0400	2480	38.44	15.75	16.1128	00706	30	28	1.7777	
	0430	2510	38.44	15.75	16.3307	00714	30	28		
	0500	2540	38.44	15.75	16.2425	00721	30	28		
	0530	2570	38.44	15.75	16.3461	00724	30	28		
	0600	2600	38.44	15.75	16.3317	00737	30	28		pump on 0559 pump off 0613
	0630	2630	38.44	15.75	16.0629	00745	30	28		pump on 0628 pump off 0643
	0700	2660	38.44	15.75	16.1553	00753	30	28		PUMP ON @ 0700 PUMP OFF @ 0719
	0730	2690	38.44	15.75	16.559	00760	30	28		PUMP ON @ 0735 PUMP OFF @ 0751
	0800	2720	38.44	15.75	16.593	00768	30	28		PUMP ON @ 0810
	0830	2750	38.44	15.75	16.036	00776	30	28		PUMP OFF @ 0831 WALKED LINE PUMP ON @ 0850
	0900	2780	38.43	15.74	16.152	00783	30	28	1.7789	PUMP OFF @ 0908 PUMP ON @ 0922
	0930	2810	38.43	15.74	16.000	00791	30	28	1.7789	PUMP OFF @ 0940 PUMP ON @ 0950
	1000	2840	38.44	15.75	16.424	00799	30	28	1.7777	PUMP OFF @ 1015
	1030	2870	39.00	16.37	16.212	00807	30	28	1.7104	PUMP OFF @ 1030 PUMP OFF @ 1054
	1100	2900	39.02	16.33	16.267	00814	30	28	1.7140	PUMP ON @ 1112 WALKED LINE
	1130	2930	39.02	16.33	16.338	00822	30	28	1.7140	PUMP OFF @ 1130 PUMP ON @ 1147
	1200	2960	39.01	16.32	16.267	00830	30	28	1.7156	PUMP OFF @ 1200 PUMP ON @ 1223
	1230	2990	39.02	16.33	16.095	00837	30	28	1.7140	PUMP OFF @ 1238 PUMP ON @ 1250
	1300	3020	38.80	16.11	16.011	00845	30	28	1.7381	PUMP OFF @ 1312 WALKED LINE PUMP ON @ 1327
	1330	3050	38.50	15.81	16.109	00853	30	28	1.7710	PUMP OFF @ 1345 PUMP ON @ 1400
	1400	3080	38.00	15.91	16.268	00861	30	28	1.7599	PUMP OFF @ 1419
	1430	3110	38.00	15.91	16.170	00869	30	28	1.7599	

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	12 IN 500 CCP 12 IN 1200 Flow Rate (vol. meas.) LEADING	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
					gpm					
6/15/23	1500	3140	39.50	15.91	10.095	00870	30	280	1.7710	PUMP ON @ 1434 PUMP OFF @ 1449
	1530	3170	39.50	15.91	16.119	00903	30	28	1.7710	PUMP ON @ 1505 PUMP OFF @ 1520
	1600	3200	39.52	15.93	14.789	00991	30	28	1.7698	PUMP ON @ 1552 PUMP OFF @ 1600 INVERTS IS HEARTING DOWN CYCLING
	1630	3230	39.52	15.93	16.272	00999	30	28		PUMP ON @ 1623 PUMP OFF @ 1639
	1700	3260	39.52	15.93	16.186	00906	30	28		PUMP ON @ 1658 PUMP OFF @ 1720
	1730	3290	39.52	15.93	15.972	00914	30	28		PUMP ON @ 1730 PUMP OFF @ 1751
	1800	3320	39.50	15.91	16.175	00922	30	28	1.7710	PUMP ON @ 1804 PUMP OFF @ 1916
	1930	3350	39.53	15.94	15.970	00930	30	28	1.7676	PUMP ON @ 1931 PUMP OFF @ 1947
	1900	3380	39.50	15.91	16.113	—	30	28	1.7710	PUMP ON @ 1903 PUMP OFF @ 1923
	1930	3390	38.48	15.79	15.9186	00945	30	28		pump on 1933 pump off 1949
	2000	3440	38.49	15.80	14.4854	00952	3050	28		pump on 2025 pump off 2039
	2030	3470	38.64	16.20	14.2169	00960	30 60	28		pump on 2054 pump off 2104
	2100	3500	38.51	15.82	14.6040	00968	30	28		pump on 2125 → 2125
	2130	3530	38.67	15.98	14.5462	00976	30	28		walk the line
	2200	3560	38.69	16.00	14.6609	00984	30	28		
	2230	3590	38.48	15.79	14.1237	00991	30	28		
	2300	3620	38.68	15.99	14.2319	00999	30	28		pump on 2302 pump off 2317
↓	2330	3650	38.65	15.96	14.1595	01007	30	28		pump on 2320 pump off 2345
6/16/23	0000	3680	38.62	15.93	14.5057	01014	30	28		pump on 0007 pump off 0024
	0030	3710	38.47	15.78	14.8507	01022	30	28		pump on 0010 pump off 0058
	0100	3740	38.52	15.83	14.3986	01030	30	28		walk the line
↓	0130	3770	38.69	16.00	14.1607	01037	30	28		pump on 0139 pump off 0153

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (vol meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/16/23	0200	3800	38.72	16.03	14.2343	01045	30	28		pump on 0207 pump off 0221
	0230	3830	38.55	15.86	14.2159	01053	30	28		pump on 0221 pump off 0247
	0300	3860	38.55	15.86	14.2837	01061	30	28		pump on 0241 pump off 0304
	0330	3890	38.63	15.94	14.5286	01068	30	28		pump on 0304 pump off 0328
	0400	3920	38.55	15.86	14.5769	01076	30	28		pump on 0328 pump off 0357
	0430	3950	38.54	15.85	14.4309	01083	30	28		pump on 0357 pump off 0411
	0500	3980	38.55	15.86	14.3689	01091	30	28		pump on 0411 pump off 0425
	0530	4010	38.68	15.88	13.9890	01099	30	28	1.7688	pump on 0425 pump off 0438
	0600	4040	38.65	15.86	14.5380	01106	30	28		pump on 0438 pump off 0452
	0630	4070	38.64	6.00	14.0608	01114	30	28		pump on 0452 pump off 0511
	0700	4100	38.69	16.00	14.0609	01123	30	28		pump on 0511 pump off 0542
	0730	4130	38.67	15.98	14.356	01129	30	28		on 0558 pump off 0616
	0800	4160	38.69	16.00	14.313	01137	30	28		pump on 0616 pump off 0630
	0830	1490	38.69	16.00	14.000	01145	30	28		pump on 0630 pump off 0645
	0900	1520	38.60		14.114	01152	30	28		pump on @ 0645 pump off @ 0720 WALKED LING
	0930	1550	38.58		14.177	01160	30	28		pump on @ 0737 pump off @ 0750
	1015	1595	38.54		14.983	01171	45	28		pump on @ 0802 pump off @ 0919
	1020	1600	38.54		14.308	01173	5	28		pump on @ 0834 pump off @ 0853
	1025	1605	38.54		14.192	01174	5	28		pump on @ 0910 pump off @ 0925
	1030	1610	38.54		14.987	01175	5	28		SAMPLE TAKEN @ 0931 COLLECTING TRANSDUCER DATA @ 03. WELL
	1030	1610	38.54		12.910	01177	0	28		pump on @ 0943 pump off @ 0958
										pump on @ 1012
										pump off @ 1027

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
--	--	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6/16/23	1037		29.27							PUMP IN WELL OFF TO 38 recovery
	1038		23.							
	1039		23.66							MYERS PUMPED REST OF WATER OUT OF THE TANK SO THEY CAN MOVE IT MYERS PACKING UP.
	1040		23.49							
	1041		23.93							
	1045									
	1046									
	1047									
	1048									
	1042		23.92							
	1043		23.40							
	1044		23.40							
	1045		23.39							
	1046		23.38							
	1047		23.39							
	1048		23.40							
	1049		23.40							
	1050		23.40							
	1051		23.40							
	1052		23.37							
	1053		23.39							
	1054		23.39							

Step-Rate Aquifer Test Form



Well ID: M52A

Date(s): _____

Field Personnel: B. Hartman

Project Name: M52A Aq test

Project Number: 1420232029

Pump Agency and Operator: <u>Myers Well Pump</u>					Test Duration: <u>4hr</u>			Well Depth: <u>70'</u>		Static Water Level: <u>19.</u>	
Observation Wells: <u>B5X3, MW69, MW70</u>					Transducer Model/SN: <u>978431 In Situ level tool</u>			Screen Interval:		Measuring Point/Stick Up:	
Pump size, capacity, make:					Transducer Test Name:			Pump Depth: <u>68'</u>		Pump On (date/time): <u>6-20-23 0833</u>	
Totalizer Model/SN:					Well Diameter: <u>4"</u>			Pump off (date/time):			
Date	Time	Time Since Pumping Started	Depth to Water <i>Top of pipe</i>	Drawdown	Transducer Flow Rate (vol. meas.)	Totalizer Reading <i>x100</i>	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks	
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft		
<u>6-20-23</u>	<u>0833</u>		<u>80.10</u>		<u>48.501</u>	<u>01174</u>				<u>— pump on —</u>	
	<u>0835</u>		<u>23.95</u>		<u>44.557</u>					<u>dialing in pump ~ 2 gpm</u>	
	<u>0836</u>		<u>23.89</u>		<u>44.691</u>						
	<u>0837</u>		<u>23.86</u>		<u>44.720</u>					<u>@ 1 gpm</u>	
	<u>0838</u>		<u>23.87</u>		<u>44.715</u>						
	<u>0840</u>		<u>23.98</u>		<u>44.614</u>						
	<u>0841</u>		<u>24.04</u>		<u>44.551</u>						
	<u>0842</u>		<u>24.12</u>		<u>44.487</u>						
	<u>0844</u>		<u>24.29</u>		<u>44.318</u>						
	<u>0845</u>		<u>24.36</u>		<u>44.250</u>						
	<u>08 46</u>		<u>24.42</u>		<u>44.162</u>						
	<u>08 47</u>		<u>24.49</u>		<u>44.104</u>						
	<u>08 48</u>		<u>24.55</u>		<u>44.048</u>						

20.10

Step-Rate Aquifer Test Form

Page ___ of ___

Date	Time	Time Since Pumping Started	Depth to Water Top of Plate	Drawdown	Transducer Flow Rate (vol. meas.) depth ft gpm	Totalizer Reading 2100 gal	Elapsed Time Between Readings min	Flow Rate from Totalizer gpm	Specific Capacity gpm/ft	Remarks 0833 pump on
---	---	min	ft bmp	ft		gal	min	gpm	gpm/ft	
6-20-23	0849	6	24.61	4.51	43.958	01178	1			@ 1 gpm
	0850	7	24.69	4.59	43.904		1			
	0851	10	24.73		43.873		1			
	0852	19	24.82		43.803		1			
	53	20	24.85	4.75	43.760		1			
	55	22	24.96	4.86	43.649		2			
	57	24	25.09	4.99	43.522		2			
	59	26	25.28	5.18	43.341		2			
	0900	27	25.64	5.54	43.059		1			
	02	29	26.98	6.88	41.815		2			
	04	31	28.74	8.64	40.078		2			
	06	33	30.24	10.14	38.483		2			
	08	35	31.80	11.7	36.924		2			
	10	37	33.28	13.8	35.404		2			
	12	39	34.96	14.86	33.734		2			
	14	41	36.07	15.97	32.567		2			
	16	43	37.28	17.18	31.365		2			
	18	45	37.78	17.68	30.704		2			
	20	47	38.09	17.99	30.454		2			
	22	49	38.35	18.25	30.176		2			
	24	51	38.62	18.52	29.896		2			
	26	53	38.88	18.78	29.643		2			

Step-Rate Aquifer Test Form

20.10

Date	Time	Time Since Pumping Started	Depth to Water <i>from gate</i>	Drawdown	Transducer	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
					Flow Rate (vol. meas.) <i>depth</i>					
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6-20-23	0928	55	39.17	19.07	29.362		2			<i>pump on 0833</i>
	30	57	39.42		29.088					<i>@ 1gpm</i>
	32	59	39.66		28.848					
	33	60	39.90	19.7	28.712					
	34	61								
	35	62								<i>- dial in to 2gpm</i>
	36	63	41.47	21.37	27.150					<i>- 2gpm</i>
	38	65	42.22		26.320					
	40	67	43.18	23.08	25.351					
	42	69	44.30	24.2	24.268					
	46	73	46.35		22.262		4			
	0949	76	47.82		20.762		3			
	0952	79	49.29		19.326		3			
	0955	82	50.66		17.886		3			
	0958	85	52.30		16.206		3			
	1001	88	54.80	33.9	14.581		5			
	1003	90	55.12	35.02	13.495		2			
	1005	92	56.18		12.362		2			
	1007	94	57.22	37.12	11.257		2			
	1009	96	58.29	38.19	10.149		2			
	1011	98	59.49	39.39	9.003		2			
	1013	100	60.92		7.999					

Step-Rate Aquifer Test Form

20.10

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (vol. meas.) <i>depth</i>	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	ft gpm	gal	min	gpm	gpm/ft	
	1015		61.31		7.154		1			2gpm
	1016		61.67	41.57	6.774		1			
	1017		61.98		6.469		1			
	18		62.20		6.220		1			
	19		62.34		6.064		1			
	20		62.43		5.976		1			
	21		62.53	42.43	5.868		1			2gpm remeasured
	23		62.71	42.61	5.689		2			
	24		62.81		5.605		1			
	25		62.92		5.503		1			
	10 28		63.64		4.806		4			
	30		63.97		4.493		1			
	31		64.29		4.169					
	32		64.70		3.796					
	33		65.15		3.332					
	34		65.68		2.817					- rate of dd increase
	35		66.21		2.255					
	36		66.83	46.73	1.636					
	37				1.0 ~ 0.7					pump off
Recovery	10:38:22		67.02							— Recovery —
	1040		66.42		1.993					
	1045:13		65.00							

66.43 - 20.4
46.73

Constant-Rate Aquifer Test Form



Well ID: M52A

Date(s): 6-21-23

Field Personnel: B Hartman

Project Name: _____

Project Number: _____

Pump Agency and Operator: <u>Myers</u>					Test Duration: <u>8hr</u>			Well Depth:		Static Water Level: <u>20.35</u>	
Observation Wells: <u>MW69 MW70 B5x3</u>					Transducer Model/SN:			Screen Interval:		Measuring Point/Stick Up:	
Pump size, capacity, make:					Transducer Test Name:			Pump Depth:		Pump On (date/time): <u>6-21-23 0824</u>	
Totalizer Model/SN:					Transducer Test Name:			Well Diameter:		Pump off (date/time):	
Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer Flow Rate (vol. meas.) <u>depth</u>	Totalizer Reading <u>x100</u>	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks	
--	--	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft		
<u>6-21-23</u>	<u>0823</u>	<u>—</u>	<u>20.35</u>		<u>48.197</u>	<u>01180</u>					
	<u>-0824</u>									<u>- pump on - dialing in</u>	
	<u>0825</u>	<u>1</u>	<u>21.58</u>		<u>46.897</u>		<u>1</u>			<u>+ 1 gpm</u>	
	<u>0826</u>		<u>21.94</u>		<u>46.634</u>		<u>1</u>			<u>1gpm achieved</u>	
	<u>27</u>		<u>22.23</u>		<u>46.390</u>		<u>1</u>				
	<u>28</u>		<u>22.42</u>		<u>46.148</u>		<u>1</u>				
	<u>29</u>		<u>22.56</u>		<u>45.959</u>		<u>1</u>				
	<u>30</u>		<u>22.72</u>		<u>45.826</u>		<u>1</u>				
	<u>31</u>		<u>22.85</u>		<u>45.686</u>		<u>1</u>				
	<u>32</u>		<u>22.97</u>		<u>45.570</u>		<u>1</u>				
	<u>33</u>		<u>23.09</u>		<u>45.459</u>		<u>1</u>				
	<u>34</u>		<u>23.19</u>		<u>45.351</u>		<u>1</u>			<u>collect sample CRT1</u>	
	<u>4/4</u>		<u>22.79</u> <u>24.14^{dit}</u>		<u>44.416</u>		<u>10</u>				

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	20.55 Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6-21-23	0847	23	24.42	4.07	44.123		3			- 0.9 gpm = dialing back
	50	26	24.66		43.887	3	3			to 1.0 gpm
	53	29	—		43.131	3	3			0851 @ 1.0 gpm
	54	30	25.01	4.66	43.544		1			
	56	32	25.26	4.91	43.317		2			
	58	34	26.50	6.15	42.292		2			significant + drop in WL - check gpm
	59	35	27.37	7.02	41.329		1			@ 1 gpm
	0900	36	28.40	8.05	40.283		1			
	0901	37	29.45	9.10	39.175		1			
	02	38	30.79	10.44	37.957		1			
	03	39	31.73	11.38	36.946		1			
	04	40	32.82	12.47	35.842		1			
	06	42	34.89	14.54	33.690		2			avg drop 2ft/min, 1
	07	43	35.95	15.26	32.680		1			
	08	44	36.86	16.51	31.679		1			@ 1 gpm 1.0
	0910	46	37.89		30.561		2			curve flattening
	11	47	38.16		30.328		1			
	12	48	38.39		30.100		2			pump @ 1.0 gpm
	14	50	38.90		29.607		2			
	16	52	39.36	19.01	29.127		2			
	18	54	39.83		28.673		2			
	20	56	40.39	20.04	28.107		2			

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	29.35 Drawdown	Transducer Flow Rate (vol. meas.) depth	Totalizer Reading x 1.00	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	ft + gpm	gal	min	gpm	gpm/ft	
6-21-23	0922	58	40.91		27.582	01180	2			pump @ 1.0 gpm
	0924	60	41.40	21.05	27.083		2			- dial down to 0.9 gpm
	0925	61	-		-		-	0.9		- 0.9 gpm -
	0926	62	41.75		26.708		2			
	0930	66	42.37	22.02	26.100		4			
	0935	71	43.10	22.75	25.373		5	0.9		0933 @ 0.9 gpm
	0940	76	46.75				54			bump pump to 0.8 gpm
	0945	81								
	0940	76	43.65		24.837		5			pump @ 0.77 gpm
	0944	80	44.01		24.477		4	0.77		
	0945	81	44.12		24.329		1	0.77		
	1000	96	45.73	25.38	22.742		15	0.77		
	1010	-	-	-	-		-	0.75		@ 0.75 gpm
	1011	107	46.50		21.661		11	0.75 ^{0.8}		flow fluctuating 0.75-0.80
	1015	111	47.10	26.75	21.335		4			averaging 0.77 gpm
	1031	127	48.18		20.243		16	0.77		
	1045	141	49.04		19.406		14	0.75		@ 0.75 gpm
	1100	156	49.94	29.59	18.506	01181	15	0.68		@ 0.68 gpm - less head to pump
	1115	171	50.92	30.57	17.516		15	0.68		rate reduce &
	1130	186	51.91		16.521		15	0.72		pump fluctuate between 0.68-0.72
	1201	201	52.87		15.557		15	0.69		sample CBT2 @ 1146
	1202	218	53.97	33.62	14.490		17			

Constant-Rate Aquifer Test Form

Date	Time	Time Since Pumping Started	Depth to Water	20.35 Drawdown	Flow Rate (vol. meas.)	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
---	---	min	ft bmp	ft	gpm	gal	min	gpm	gpm/ft	
6-21-23	1215	231	45.74 34.34		13.692		13	0.8		
	1-		↑ 54.74							
	1230	246	55.67	35.32	12.769		15			
	1245	261	56.62		12.769 ← 11.811		15	0.78		
	1300	276	57.40	37.85	11.025		15	0.74		
	1315	291	58.13		10.286	0/182	15	0.82		bring pump down to .75.
	1330	306	59.00	38.65	9.413		15	0.75		- as head lowers pump
	1345	321	59.76	39.41	8.643		15	0.76		alternating .75 to .76
	1400	336	60.50	40.15	7.908		15	0.		
	1415	351	61.17	40.82	7.246		15	0.72		
	1430	366	61.69	41.34	6.723		15	0.73		bump up to .77
	1445	381	62.05	41.7	6.354		15	.71		bump up to .77
	1446	396	62.31		6.087		15	0.77		pump @ 0.77 gpm
	1500	411	62.31	41.96	6.087		15	0.77		
	1515	426	62.47	42.12	5.917		15	0.75		
	1530	441	62.62	42.27	5.783		15	0.		
	1545	456	62.71		5.672		15	0.76		
	1600	471	62.85		5.541		15	0.76		CRT3 @ 1605 sampled
	1615	486	62.99		5.400		15	0.76		
	1620									0.76
	1623		63.11		5.290		8			
	1624									shut, pump off

$$\frac{63.11 - 20.10}{42.76} \rightarrow 98.7\%$$

Constant-Rate Aquifer Test Form

Recovery

Date	Time	Time Since Pumping Started	Depth to Water	Drawdown	Transducer	Totalizer Reading	Elapsed Time Between Readings	Flow Rate from Totalizer	Specific Capacity	Remarks
					Flow Rate (vol. meas.) depth					
---	---	min	ft bmp	ft	ft gpm	gal	min	gpm	gpm/ft	
6-26-23	1626		62.95		5.481	01183.5				Recovery pump off 1624
	1628		62.74		5.531		2			
	1630		62.76		5.572		2			
	1633		62.70		5.681		3			
	1635		62.68		5.735		2			
	1638		62.54		5.805		3			
	1640		62.52		5.851		2			
	1642		62.43		5.888		2			
	1644		62.38		5.950		2			
	1646		62.32		6.034		2			
	1648		62.25		6.118					
	1650		62.10		6.235					
	1652		—		—					
	1654		61.83		6.512					



B LABORATORY
REPORTS

ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
4801 Cholla Lake Rd
Joseph City, Arizona 86032

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JOB DESCRIPTION

Aquifer Testing
SDG NUMBER APS Cholla Power Plant

JOB NUMBER

550-203635-1

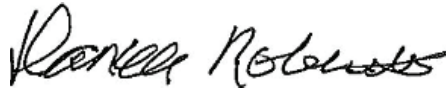
Eurofins Phoenix

Job Notes

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Authorization



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.

Metals

Qualifier	Qualifier Description
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
T5	Laboratory not licensed for this parameter

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Job ID: 550-203635-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-203635-1

Comments

No additional comments.

Receipt

The samples were received on 6/16/2023 4:36 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8° C.

HPLC/IC

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-303709 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

CRT3-W307R-0623 (550-203635-1), CRT2-W307R-0623 (550-203635-2) and CRT1-W307R-0623 (550-203635-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Sample Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-203635-1	CRT3-W307R-0623	Water	06/16/23 09:34	06/16/23 16:36
550-203635-2	CRT2-W307R-0623	Water	06/14/23 22:36	06/16/23 16:36
550-203635-3	CRT1-W307R-0623	Water	06/13/23 11:38	06/16/23 16:36

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Client Sample ID: CRT3-W307R-0623

Lab Sample ID: 550-203635-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	mg/L	200		300.0	Total/NA
Sulfate	2900	D2	400	mg/L	200		300.0	Total/NA
Aluminum	0.30		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.8		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	49		1.0	ug/L	5		200.8	Total Recoverable
Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900		100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.1	H5 T5	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CRT2-W307R-0623

Lab Sample ID: 550-203635-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.33		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	4.9		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	54		1.0	ug/L	5		200.8	Total Recoverable

Client Sample ID: CRT1-W307R-0623

Lab Sample ID: 550-203635-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.43		0.10	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	870		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	5.9		0.50	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2200		2.5	mg/L	5		200.7 Rev 4.4	Total/NA
Cobalt	54		1.0	ug/L	5		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Client Sample ID: CRT3-W307R-0623

Lab Sample ID: 550-203635-1

Date Collected: 06/16/23 09:34

Matrix: Water

Date Received: 06/16/23 16:36

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	mg/L			06/19/23 14:31	200
Sulfate	2900	D2	400	mg/L			06/19/23 14:31	200

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.30		0.10	mg/L		06/30/23 04:00	07/06/23 18:32	1
Boron	2.9		0.050	mg/L		06/30/23 04:00	07/06/23 18:32	1
Calcium	750		2.0	mg/L		06/30/23 04:00	07/06/23 18:32	1
Iron	ND		0.10	mg/L		06/30/23 04:00	07/06/23 18:32	1
Magnesium	160		2.0	mg/L		06/30/23 04:00	07/06/23 18:32	1
Potassium	4.8		0.50	mg/L		06/30/23 04:00	07/06/23 18:32	1
Sodium	1900		2.5	mg/L		06/30/23 04:00	07/10/23 18:58	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	49		1.0	ug/L		07/05/23 11:59	07/06/23 10:28	5

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			06/21/23 17:25	1
Alkalinity, Phenolphthalein (SM 2320B)	ND		6.0	mg/L			06/21/23 17:25	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	120		6.0	mg/L			06/21/23 17:25	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			06/21/23 17:25	1
Hydroxide Alkalinity as CaCO3 (SM 2320B)	ND		6.0	mg/L			06/21/23 17:25	1
Total Dissolved Solids (SM 2540C)	7900		100	mg/L			06/22/23 14:42	1
pH (SM 4500 H+ B)	7.5	H5	1.7	SU			06/22/23 14:46	1
Temperature (SM 4500 H+ B)	16.1	H5 T5	0.1	Degrees C			06/22/23 14:46	1

Client Sample ID: CRT2-W307R-0623

Lab Sample ID: 550-203635-2

Date Collected: 06/14/23 22:36

Matrix: Water

Date Received: 06/16/23 16:36

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.33		0.10	mg/L		06/30/23 04:00	07/06/23 18:35	1
Boron	2.9		0.050	mg/L		06/30/23 04:00	07/06/23 18:35	1
Calcium	780		2.0	mg/L		06/30/23 04:00	07/06/23 18:35	1
Iron	ND		0.10	mg/L		06/30/23 04:00	07/06/23 18:35	1
Magnesium	170		2.0	mg/L		06/30/23 04:00	07/06/23 18:35	1
Potassium	4.9		0.50	mg/L		06/30/23 04:00	07/06/23 18:35	1
Sodium	2000		2.5	mg/L		06/30/23 04:00	07/10/23 19:01	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	54		1.0	ug/L		07/05/23 11:59	07/06/23 10:31	5

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Client Sample ID: CRT1-W307R-0623

Lab Sample ID: 550-203635-3

Date Collected: 06/13/23 11:38

Matrix: Water

Date Received: 06/16/23 16:36

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	0.43		0.10	mg/L		06/30/23 04:00	07/06/23 18:38	1
Boron	3.4		0.050	mg/L		06/30/23 04:00	07/06/23 18:38	1
Calcium	870		2.0	mg/L		06/30/23 04:00	07/06/23 18:38	1
Iron	ND		0.10	mg/L		06/30/23 04:00	07/06/23 18:38	1
Magnesium	200		2.0	mg/L		06/30/23 04:00	07/06/23 18:38	1
Potassium	5.9		0.50	mg/L		06/30/23 04:00	07/06/23 18:38	1
Sodium	2200		2.5	mg/L		06/30/23 04:00	07/10/23 19:04	5

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	54		1.0	ug/L		07/05/23 11:59	07/06/23 10:33	5

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-302544/2
 Matrix: Water
 Analysis Batch: 302544

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0	mg/L			06/19/23 10:32	1
Sulfate	ND		2.0	mg/L			06/19/23 10:32	1

Lab Sample ID: LCS 550-302544/5
 Matrix: Water
 Analysis Batch: 302544

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	20.0	21.5		mg/L		107	90 - 110
Sulfate	20.0	21.9		mg/L		109	90 - 110

Lab Sample ID: LCSD 550-302544/6
 Matrix: Water
 Analysis Batch: 302544

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	1	20
Sulfate	20.0	21.4		mg/L		107	90 - 110	2	20

Lab Sample ID: 550-203596-F-1 MS ^10
 Matrix: Water
 Analysis Batch: 302544

Client Sample ID: Matrix Spike
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	270	D2	200	476	D2	mg/L		102	80 - 120
Sulfate	190	D2	200	389	D2	mg/L		101	80 - 120

Lab Sample ID: 550-203596-F-1 MSD ^10
 Matrix: Water
 Analysis Batch: 302544

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	270	D2	200	474	D2	mg/L		101	80 - 120	0	20
Sulfate	190	D2	200	388	D2	mg/L		101	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-303046/1-A
 Matrix: Water
 Analysis Batch: 303554

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.10	mg/L		06/30/23 04:00	07/06/23 18:13	1
Boron	ND		0.050	mg/L		06/30/23 04:00	07/06/23 18:13	1
Calcium	ND		2.0	mg/L		06/30/23 04:00	07/06/23 18:13	1
Iron	ND		0.10	mg/L		06/30/23 04:00	07/06/23 18:13	1
Magnesium	ND		2.0	mg/L		06/30/23 04:00	07/06/23 18:13	1
Potassium	ND		0.50	mg/L		06/30/23 04:00	07/06/23 18:13	1
Sodium	ND		0.50	mg/L		06/30/23 04:00	07/06/23 18:13	1

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QC Sample Results

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-303046/1-A
 Matrix: Water
 Analysis Batch: 303709

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		0.50	mg/L		06/30/23 04:00	07/10/23 18:38	1

Lab Sample ID: LCS 550-303046/2-A
 Matrix: Water
 Analysis Batch: 303554

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	20.0	22.7		mg/L		113	85 - 115
Boron	1.00	1.15		mg/L		115	85 - 115
Calcium	21.0	23.9		mg/L		114	85 - 115
Iron	1.00	1.09		mg/L		109	85 - 115
Magnesium	21.0	23.4		mg/L		111	85 - 115
Potassium	20.0	22.4		mg/L		112	85 - 115
Sodium	20.0	21.9		mg/L		109	85 - 115

Lab Sample ID: LCS 550-303046/2-A
 Matrix: Water
 Analysis Batch: 303709

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	20.0	21.0		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-303046/3-A
 Matrix: Water
 Analysis Batch: 303554

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aluminum	20.0	22.6		mg/L		113	85 - 115	0	20
Boron	1.00	1.14		mg/L		114	85 - 115	1	20
Calcium	21.0	24.0		mg/L		114	85 - 115	0	20
Iron	1.00	1.09		mg/L		109	85 - 115	0	20
Magnesium	21.0	23.5		mg/L		112	85 - 115	0	20
Potassium	20.0	22.4		mg/L		112	85 - 115	0	20
Sodium	20.0	21.8		mg/L		109	85 - 115	0	20

Lab Sample ID: LCSD 550-303046/3-A
 Matrix: Water
 Analysis Batch: 303709

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sodium	20.0	20.6		mg/L		103	85 - 115	2	20

Lab Sample ID: 550-203506-D-1-A MS
 Matrix: Water
 Analysis Batch: 303554

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 303046

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aluminum	ND		20.0	23.2		mg/L		116	70 - 130
Boron	0.28		1.00	1.43		mg/L		115	70 - 130
Calcium	43		21.0	64.4		mg/L		103	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-203506-D-1-A MS
Matrix: Water
Analysis Batch: 303554

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 303046

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	
Iron	ND		1.00	1.14		mg/L		110	70 - 130	
Magnesium	15		21.0	37.9		mg/L		109	70 - 130	
Potassium	4.5		20.0	27.3		mg/L		114	70 - 130	
Sodium	170		20.0	189	M3	mg/L		73	70 - 130	

Lab Sample ID: 550-203506-D-1-A MS
Matrix: Water
Analysis Batch: 303709

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 303046

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec	
	Result	Qualifier		Result	Qualifier				Limits	
Sodium	160	M3	20.0	174	M3	mg/L		64	70 - 130	

Lab Sample ID: 550-203506-D-1-B MSD
Matrix: Water
Analysis Batch: 303554

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 303046

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier		Result	Qualifier				Limits		RPD	Limit
Aluminum	ND		20.0	23.4		mg/L		117	70 - 130		1	20
Boron	0.28		1.00	1.45		mg/L		117	70 - 130		1	20
Calcium	43		21.0	66.2		mg/L		111	70 - 130		3	20
Iron	ND		1.00	1.15		mg/L		111	70 - 130		1	20
Magnesium	15		21.0	39.0		mg/L		114	70 - 130		3	20
Potassium	4.5		20.0	27.7		mg/L		116	70 - 130		1	20
Sodium	170		20.0	194	M3	mg/L		99	70 - 130		3	20

Lab Sample ID: 550-203506-D-1-B MSD
Matrix: Water
Analysis Batch: 303709

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 303046

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec		RPD	
	Result	Qualifier		Result	Qualifier				Limits		RPD	Limit
Sodium	160	M3	20.0	175	M3	mg/L		69	70 - 130		1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-342974/1-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Cobalt	ND		0.20	ug/L		07/05/23 11:59	07/06/23 09:51	1

Lab Sample ID: LCS 570-342974/2-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Spike	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
Cobalt	80.0	77.9		ug/L		97	85 - 115	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-342974/3-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	80.0	78.2		ug/L		98	85 - 115	0	20

Lab Sample ID: 550-203768-D-2-B MS
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	0.20		80.0	75.0		ug/L		93	80 - 120

Lab Sample ID: 550-203768-D-2-C MSD
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Cobalt	0.20		80.0	74.1		ug/L		92	80 - 120	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-302721/5
Matrix: Water
Analysis Batch: 302721

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0	mg/L			06/21/23 14:40	1
Alkalinity, Phenolphthalein	ND		6.0	mg/L			06/21/23 14:40	1
Bicarbonate Alkalinity as CaCO3	ND		6.0	mg/L			06/21/23 14:40	1
Carbonate Alkalinity as CaCO3	ND		6.0	mg/L			06/21/23 14:40	1
Hydroxide Alkalinity as CaCO3	ND		6.0	mg/L			06/21/23 14:40	1

Lab Sample ID: LCS 550-302721/4
Matrix: Water
Analysis Batch: 302721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity as CaCO3	250	255		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-302721/17
Matrix: Water
Analysis Batch: 302721

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	261		mg/L		104	90 - 110	2	20

Lab Sample ID: 550-203625-K-5 DU
Matrix: Water
Analysis Batch: 302721

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	270		267		mg/L		0.3	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20

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QC Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-203625-K-5 DU
Matrix: Water
Analysis Batch: 302721

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Bicarbonate Alkalinity as CaCO3	270		267		mg/L		0.3	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-302762/1
Matrix: Water
Analysis Batch: 302762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
Total Dissolved Solids	ND		20	mg/L			06/22/23 14:42	1

Lab Sample ID: LCS 550-302762/2
Matrix: Water
Analysis Batch: 302762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Total Dissolved Solids	2000	1920		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-302762/3
Matrix: Water
Analysis Batch: 302762

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Total Dissolved Solids	2000	1930		mg/L		96	90 - 110	0	10

Lab Sample ID: 550-203598-B-10 DU
Matrix: Water
Analysis Batch: 302762

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Total Dissolved Solids	ND		ND		mg/L		NC	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-302769/49
Matrix: Water
Analysis Batch: 302769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-302769/61
Matrix: Water
Analysis Batch: 302769

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM	LCSSRM	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
pH	7.00	7.0		SU		100.0	98.5 - 101.5

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-203624-D-1 DU
Matrix: Water
Analysis Batch: 302769

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
pH	8.7	H5	8.7	H5	SU		0.2		5
Temperature	15.7	H5	15.8	H5	Degrees C		0.6		

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

HPLC/IC

Analysis Batch: 302544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	300.0	
MB 550-302544/2	Method Blank	Total/NA	Water	300.0	
LCS 550-302544/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-302544/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-203596-F-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-203596-F-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 303046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	200.7	
550-203635-2	CRT2-W307R-0623	Total/NA	Water	200.7	
550-203635-3	CRT1-W307R-0623	Total/NA	Water	200.7	
MB 550-303046/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-303046/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-303046/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-203506-D-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-203506-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 303554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
550-203635-2	CRT2-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
550-203635-3	CRT1-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
MB 550-303046/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	303046
LCS 550-303046/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	303046
LCSD 550-303046/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	303046
550-203506-D-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	303046
550-203506-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	303046

Analysis Batch: 303709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
550-203635-2	CRT2-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
550-203635-3	CRT1-W307R-0623	Total/NA	Water	200.7 Rev 4.4	303046
MB 550-303046/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	303046
LCS 550-303046/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	303046
LCSD 550-303046/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	303046
550-203506-D-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	303046
550-203506-D-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	303046

Prep Batch: 342974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total Recoverable	Water	200.8	
550-203635-2	CRT2-W307R-0623	Total Recoverable	Water	200.8	
550-203635-3	CRT1-W307R-0623	Total Recoverable	Water	200.8	
MB 570-342974/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-342974/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-342974/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
550-203768-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	

QC Association Summary

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Metals (Continued)

Prep Batch: 342974 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203768-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 343332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total Recoverable	Water	200.8	342974
550-203635-2	CRT2-W307R-0623	Total Recoverable	Water	200.8	342974
550-203635-3	CRT1-W307R-0623	Total Recoverable	Water	200.8	342974
MB 570-342974/1-A	Method Blank	Total Recoverable	Water	200.8	342974
LCS 570-342974/2-A	Lab Control Sample	Total Recoverable	Water	200.8	342974
LCSD 570-342974/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	342974
550-203768-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	342974
550-203768-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	342974

General Chemistry

Analysis Batch: 302721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	SM 2320B	
MB 550-302721/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-302721/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-302721/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-203625-K-5 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 302762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	SM 2540C	
MB 550-302762/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-302762/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-302762/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-203598-B-10 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 302769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203635-1	CRT3-W307R-0623	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-302769/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-302769/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-203624-D-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Client Sample ID: CRT3-W307R-0623

Lab Sample ID: 550-203635-1

Date Collected: 06/16/23 09:34

Matrix: Water

Date Received: 06/16/23 16:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		200	302544	RDC	EET PHX	06/19/23 14:31
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		1	303554	GLW	EET PHX	07/06/23 18:32
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		5	303709	GLW	EET PHX	07/10/23 18:58
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:28
Total/NA	Analysis	SM 2320B		1	302721	MAN	EET PHX	06/21/23 17:25
Total/NA	Analysis	SM 2540C		1	302762	JJI	EET PHX	06/22/23 14:42 - 06/29/23 14:49 ¹
Total/NA	Analysis	SM 4500 H+ B		1	302769	MAN	EET PHX	06/22/23 14:46

Client Sample ID: CRT2-W307R-0623

Lab Sample ID: 550-203635-2

Date Collected: 06/14/23 22:36

Matrix: Water

Date Received: 06/16/23 16:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		1	303554	GLW	EET PHX	07/06/23 18:35
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		5	303709	GLW	EET PHX	07/10/23 19:01
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:31

Client Sample ID: CRT1-W307R-0623

Lab Sample ID: 550-203635-3

Date Collected: 06/13/23 11:38

Matrix: Water

Date Received: 06/16/23 16:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		1	303554	GLW	EET PHX	07/06/23 18:38
Total/NA	Prep	200.7			303046	SGO	EET PHX	06/30/23 04:00
Total/NA	Analysis	200.7 Rev 4.4		5	303709	GLW	EET PHX	07/10/23 19:04
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:33

¹ This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203635-1
 SDG: APS Cholla Power Plant

Laboratory: Eurofins Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date								
Arizona	State	AZ0728	06-10-24								
<p>The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Analysis Method</th> <th style="text-align: left;">Prep Method</th> <th style="text-align: left;">Matrix</th> <th style="text-align: left;">Analyte</th> </tr> </thead> <tbody> <tr> <td>SM 4500 H+ B</td> <td></td> <td>Water</td> <td>Temperature</td> </tr> </tbody> </table>				Analysis Method	Prep Method	Matrix	Analyte	SM 4500 H+ B		Water	Temperature
Analysis Method	Prep Method	Matrix	Analyte								
SM 4500 H+ B		Water	Temperature								

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Method Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203635-1
SDG: APS Cholla Power Plant

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	EPA	EET PHX
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8	Metals (ICP/MS)	EPA	EET CAL 4
SM 2320B	Alkalinity	SM	EET PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET PHX
SM 4500 H+ B	pH	SM	EET PHX
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency
SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

203635

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman Lazarr	Lab Contact: Danielle Roberts	Date:	Carrier:	COC No:
Arizona Public Service	(602) 250-3608	Pam Norris (505) 598-8781			1 of 1 COCs
4601 Cholla Lake Rd					
Joseph City, AZ 86032					
(928) 587-0319	Analysis Turnaround Time				
Phone	<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS				
FAX	TAT if different from Below				
Project Name: Aquifer Testing	<input checked="" type="checkbox"/> 2 weeks				
Site: APS Cholla Power Plant	<input type="checkbox"/> 1 week				
PO #: 300592358	<input type="checkbox"/> 2 days				
	<input type="checkbox"/> 1 day				

Sample Identification	Sample Date	Sample Time	Type (C=Comp, G=Grav)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 - Total Boron, Ca, K, Mg, Na, Fe, Al	EPA 200.8 - Total Cobalt	EPA 300.0 - Cl, SO4	SM 4500-HB pH	SM 2540C - TDS	2320B Alkalinity - Bicarbonate	Port Sample
-1 CE T3 - W307E - 010 23	6/16/23	0934	G	W	4	N	N	X	X	X	X	X	X	Port Sample
-2 CE T2 - W307E - 010 23	6/14/23	2236	G	W	1	N	N	X	X	X	X	X	X	Port Sample
-3 CE T1 - W307E - 010 23	6/13/23	1139	G	W	1	N	N	X	X	X	X	X	X	Port Sample



Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Perform Method 200.8 with collision cell. * As marked on the bottle: perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Cooler Temp. (C):	Obs'd:	Cor'd:	Therm ID No.:
Relinquished by:		Company:				
Relinquished by:		Company:				
Relinquished by:		Company:				
Relinquished by:		Company:				

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Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-203635-1
SDG Number: APS Cholla Power Plant

Login Number: 203635

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-203635-1
SDG Number: APS Cholla Power Plant

Login Number: 203635

List Number: 2

Creator: Yu, Tiffany

List Source: Eurofins Calscience

List Creation: 07/01/23 02:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2,1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

PREPARED FOR

Attn: Natalie Chrisman
Arizona Public Service Company
4801 Cholla Lake Rd
Joseph City, Arizona 86032

Generated 7/8/2023 4:10:39 AM

JOB DESCRIPTION

Aquifer Testing
SDG NUMBER APS Cholla Power Plant

JOB NUMBER

550-203821-1

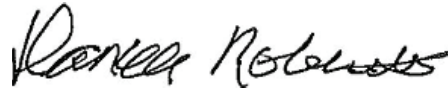
Eurofins Phoenix

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

Authorization



Generated
7/8/2023 4:10:39 AM

Authorized for release by
Danielle Roberts, Senior Project Manager
Danielle.Roberts@et.eurofinsus.com
(657)210-6355



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Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Qualifiers

Metals

Qualifier	Qualifier Description
L3	The associated blank spike recovery was above method acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Job ID: 550-203821-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-203821-1

Comments

No additional comments.

Receipt

The samples were received on 6/22/2023 3:23 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.0° C.

Metals

Method 200.7 Rev 4.4: The laboratory control sample (LCS) associated with preparation batch 550-303134 and analytical batch 550-303578 was outside acceptance criteria for Boron, Molybdenum and Zinc. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Sample Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-203821-1	M52A-CRT1-0623	Water	06/21/23 08:34	06/22/23 15:23
550-203821-2	M52A-CRT2-0623	Water	06/21/23 11:46	06/22/23 15:23
550-203821-3	M52A-CRT3-0623	Water	06/21/23 16:05	06/22/23 15:23

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Detection Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Client Sample ID: M52A-CRT1-0623

Lab Sample ID: 550-203821-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3	L3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	38		1.0	ug/L	5		200.8	Total Recoverable

Client Sample ID: M52A-CRT2-0623

Lab Sample ID: 550-203821-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3	L3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	48		1.0	ug/L	5		200.8	Total Recoverable

Client Sample ID: M52A-CRT3-0623

Lab Sample ID: 550-203821-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.6	L3	0.050	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	38		1.0	ug/L	5		200.8	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix

Client Sample Results

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203821-1
 SDG: APS Cholla Power Plant

Client Sample ID: M52A-CRT1-0623
 Date Collected: 06/21/23 08:34
 Date Received: 06/22/23 15:23

Lab Sample ID: 550-203821-1
 Matrix: Water

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3	L3	0.050	mg/L		06/30/23 04:18	07/06/23 21:25	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	38		1.0	ug/L		07/05/23 11:59	07/06/23 10:11	5

Client Sample ID: M52A-CRT2-0623
 Date Collected: 06/21/23 11:46
 Date Received: 06/22/23 15:23

Lab Sample ID: 550-203821-2
 Matrix: Water

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.3	L3	0.050	mg/L		06/30/23 04:18	07/06/23 21:28	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	48		1.0	ug/L		07/05/23 11:59	07/06/23 10:13	5

Client Sample ID: M52A-CRT3-0623
 Date Collected: 06/21/23 16:05
 Date Received: 06/22/23 15:23

Lab Sample ID: 550-203821-3
 Matrix: Water

Method: EPA 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.6	L3	0.050	mg/L		06/30/23 04:18	07/06/23 21:37	1

Method: EPA 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	38		1.0	ug/L		07/05/23 11:59	07/06/23 10:26	5

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-303134/1-A
Matrix: Water
Analysis Batch: 303578

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 303134

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	mg/L		06/30/23 04:18	07/06/23 20:48	1

Lab Sample ID: LCS 550-303134/2-A
Matrix: Water
Analysis Batch: 303578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 303134

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	1.00	1.16	L3	mg/L		116	85 - 115

Lab Sample ID: LCSD 550-303134/3-A
Matrix: Water
Analysis Batch: 303578

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 303134

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	1.00	1.14		mg/L		114	85 - 115	2	20

Lab Sample ID: 550-203988-I-1-A MS
Matrix: Water
Analysis Batch: 303578

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 303134

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	0.20	L3	1.00	1.38		mg/L		118	70 - 130

Lab Sample ID: 550-203988-I-1-B MSD
Matrix: Water
Analysis Batch: 303578

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 303134

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Boron	0.20	L3	1.00	1.37		mg/L		117	70 - 130	1	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 570-342974/1-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.20	ug/L		07/05/23 11:59	07/06/23 09:51	1

Lab Sample ID: LCS 570-342974/2-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Cobalt	80.0	77.9		ug/L		97	85 - 115

QC Sample Results

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203821-1
 SDG: APS Cholla Power Plant

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 570-342974/3-A
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Cobalt	80.0	78.2		ug/L		98	85 - 115	0	20	

Lab Sample ID: 550-203768-D-2-B MS
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Cobalt	0.20		80.0	75.0		ug/L		93	80 - 120			

Lab Sample ID: 550-203768-D-2-C MSD
Matrix: Water
Analysis Batch: 343332

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 342974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
									Limits	RPD		
Cobalt	0.20		80.0	74.1		ug/L		92	80 - 120	1	20	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Metals

Prep Batch: 303134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203821-1	M52A-CRT1-0623	Total/NA	Water	200.7	
550-203821-2	M52A-CRT2-0623	Total/NA	Water	200.7	
550-203821-3	M52A-CRT3-0623	Total/NA	Water	200.7	
MB 550-303134/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-303134/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-303134/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-203988-I-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-203988-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 303578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203821-1	M52A-CRT1-0623	Total/NA	Water	200.7 Rev 4.4	303134
550-203821-2	M52A-CRT2-0623	Total/NA	Water	200.7 Rev 4.4	303134
550-203821-3	M52A-CRT3-0623	Total/NA	Water	200.7 Rev 4.4	303134
MB 550-303134/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	303134
LCS 550-303134/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	303134
LCSD 550-303134/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	303134
550-203988-I-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	303134
550-203988-I-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	303134

Prep Batch: 342974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203821-1	M52A-CRT1-0623	Total Recoverable	Water	200.8	
550-203821-2	M52A-CRT2-0623	Total Recoverable	Water	200.8	
550-203821-3	M52A-CRT3-0623	Total Recoverable	Water	200.8	
MB 570-342974/1-A	Method Blank	Total Recoverable	Water	200.8	
LCS 570-342974/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
LCSD 570-342974/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	
550-203768-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	
550-203768-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	

Analysis Batch: 343332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203821-1	M52A-CRT1-0623	Total Recoverable	Water	200.8	342974
550-203821-2	M52A-CRT2-0623	Total Recoverable	Water	200.8	342974
550-203821-3	M52A-CRT3-0623	Total Recoverable	Water	200.8	342974
MB 570-342974/1-A	Method Blank	Total Recoverable	Water	200.8	342974
LCS 570-342974/2-A	Lab Control Sample	Total Recoverable	Water	200.8	342974
LCSD 570-342974/3-A	Lab Control Sample Dup	Total Recoverable	Water	200.8	342974
550-203768-D-2-B MS	Matrix Spike	Total Recoverable	Water	200.8	342974
550-203768-D-2-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.8	342974

Lab Chronicle

Client: Arizona Public Service Company
 Project/Site: Aquifer Testing

Job ID: 550-203821-1
 SDG: APS Cholla Power Plant

Client Sample ID: M52A-CRT1-0623

Lab Sample ID: 550-203821-1

Date Collected: 06/21/23 08:34

Matrix: Water

Date Received: 06/22/23 15:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			303134	SGO	EET PHX	06/30/23 04:18
Total/NA	Analysis	200.7 Rev 4.4		1	303578	GLW	EET PHX	07/06/23 21:25
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:11

Client Sample ID: M52A-CRT2-0623

Lab Sample ID: 550-203821-2

Date Collected: 06/21/23 11:46

Matrix: Water

Date Received: 06/22/23 15:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			303134	SGO	EET PHX	06/30/23 04:18
Total/NA	Analysis	200.7 Rev 4.4		1	303578	GLW	EET PHX	07/06/23 21:28
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:13

Client Sample ID: M52A-CRT3-0623

Lab Sample ID: 550-203821-3

Date Collected: 06/21/23 16:05

Matrix: Water

Date Received: 06/22/23 15:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	200.7			303134	SGO	EET PHX	06/30/23 04:18
Total/NA	Analysis	200.7 Rev 4.4		1	303578	GLW	EET PHX	07/06/23 21:37
Total Recoverable	Prep	200.8			342974	W1BQ	EET CAL 4	07/05/23 11:59
Total Recoverable	Analysis	200.8		5	343332	Y2WS	EET CAL 4	07/06/23 10:26

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

Laboratory: Eurofins Calscience

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0830	11-16-23
California	Los Angeles County Sanitation Districts	10109	07-31-23
California	SCAQMD LAP	17LA0919	11-30-23
California	State	3082	07-31-24
Kansas	NELAP	E-10420	07-31-23
Nevada	State	CA00111	07-31-24
Oregon	NELAP	4175	02-02-24
USDA	US Federal Programs	P330-22-00059	05-24-23 *
Washington	State	C916-18	10-11-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: Aquifer Testing

Job ID: 550-203821-1
SDG: APS Cholla Power Plant

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	EET PHX
200.8	Metals (ICP/MS)	EPA	EET CAL 4
200.7	Preparation, Total Metals	EPA	EET PHX
200.8	Preparation, Total Recoverable Metals	EPA	EET CAL 4

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET CAL 4 = Eurofins Calscience Tustin, 2841 Dow Avenue, Tustin, CA 92780, TEL (714)895-5494

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

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4625 E Cotton Center Blvd
 Suite 189
 Phoenix, AZ 85040
 phone 602.437.3340 fax 602.454.9303

Regulatory Program: DW NPDES RCRA Other: CCR

203821

TestAmerica Laboratories, Inc.

Client Contact	Natale Chrisman Lazarr (602) 250-3608	Analysis Turnaround Time	<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS	Pam Norris (505) 598-8781	Date:	COC No:	1 of 1 COCs
Arizona Public Service	4801 Cholla Lake Rd	Joseph City, AZ 86032	Phone (928) 587-0319 FAX	Lab Contact: Danielle Roberts	Carrier:	Sampler:	1 of 1 COCs
Project Name: Aquifer Testing	Site: APS Cholla Power Plant	PO #: 300592358	TAT if different from Below <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day			For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:	

Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grav)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 200.7 - Total Boron	EPA 200.8 - Total Cobalt	Port Sample
M52A-CRT1-0623	06/21/23	0834	G	W	1	N	N	X	X	
M52A-CRT2-0623	06/21/23	1146	G	W	1	N	N	X	X	
M52A-CRT3-0623	06/21/23	1605	G	W	1	N	N	X	X	



550-203821 Chain of Custody

Preservation Used: 1= Ice, 2= HCI, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other _____

Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:
 Perform Method 200.8 with collision cell. * As marked on the bottle, perform dissolved analyses with sample provided in bottles marked 'field filtered'

Custody Seals Intact: Yes No Custody Seal No.: _____ Cooler Temp. (°C): Obs'd: _____ Therm ID No.: _____

Relinquished by: Paul Martinez PSM Company: WSP Date/Time: 6-22-23 1523 Received by: [Signature] Received in Laboratory by: [Signature] Company: _____ Date/Time: _____

Relinquished by: _____ Company: _____ Date/Time: _____ Received by: _____ Received in Laboratory by: _____ Company: EETA-PHX Date/Time: 6/22/23 1523

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-203821-1
SDG Number: APS Cholla Power Plant

Login Number: 203821

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-203821-1
SDG Number: APS Cholla Power Plant

Login Number: 203821

List Number: 2

Creator: Yu, Tiffany

List Source: Eurofins Calscience

List Creation: 07/01/23 02:48 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2,1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



C

**TEST WELL AND
OBSERVATION
WELL DIAGRAMS**



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

BORING LOG I.D.: W-307R

Page 1 of 5

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

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

GROUNDWATER

(Continued Next Page)

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

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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PROJECT:	APS Cholla Well Abandonment and Replacement	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926816	PROJECT FEATURE:	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5000.3	45						45	
4995.3	50						50	
4990.3	55						55	
4985.3	60				SW	WELL GRADED SAND WITH GRAVEL , 60% well graded subrounded to subangular sand, 35% well graded subrounded to subangular gravel, 5% fines, nonplastic, 5 YR 3/3 (dark reddish brown), wet	60	
4980.3	65						65	Threaded PVC End Cap
4975.3	70				SC	CLAYEY SAND WITH GRAVEL , 45% predominately medium to coarse subrounded to subangular sand, 30% well graded subrounded to subangular gravel, 25% fines, low to medium plasticity, 5 YR 3/3 (dark reddish brown), wet	70	Bentonite Seal

GROUNDWATER

(Continued Next Page)

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

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: W-307R

Page 4 of 5

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

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-4975.3	70						70	 ← Native Backfill
-4970.3	75					note: predominantly fine to medium subrounded to subangular sand	75	
-4965.3	80						80	
-4960.3	85						85	
-4955.3	90				CL	CLAY WITH GRAVEL , 50% fines, 30% well graded subrounded to subangular gravel, 20% well graded subrounded to subangular sand, medium to high plasticity, 5 YR 3/4 (dark reddish brown), moist	90	
-4950.3	95						95	

GROUNDWATER

(Continued Next Page)

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

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: W-307R

Page 5 of 5

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

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-4950.3	95				SW	WELL GRADED SAND WITH GRAVEL, 60% well graded subrounded to subangular sand, 35% well graded subrounded to subangular gravel, 5% fines, nonplastic, 5 YR 3/4 (dark reddish brown), wet Stopped Core at 97.0 feet	95	
-4945.3	100						100	
-4940.3	105						105	
-4935.3	110						110	
-4930.3	115						115	
-4925.3	120						120	

GROUNDWATER

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

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: MW-74M

Page 5 of 6

PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926815	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)	
-4954.7	95					BEDROCK MOQUI , continued	95	<p>Note: Moqui is moist with low saturation at 96.0 to 97.0 feet</p> <p>Note: Moqui is dry at 97.0 to 100.0 feet</p> <p>Note: Moqui is moist with low saturation at 100.0 to 106.0 feet</p> <p>Note: Moqui is dry at 106.0 to 106.5 feet</p> <p>Note: Moqui is moist with low saturation at 106.5 to 109.0 feet</p> <p>Note: Moqui is dry at 109.0 to 125.0 feet</p> <p>Note: gradational Moqui/Wupatik contact at 118.0 feet. Members are interfingered and Wupatik occasionally contains clasts of Moqui. Wupatik is pale reddish-brown micaceous siltstone with possibly ripple lamination.</p>	
-4949.7	100						100		← Borehole changes diameter to 6" at 100'
-4944.7	105						105		
-4939.7	110						110		
-4934.7	115						115		
-4929.7	120						120		

GROUNDWATER

(Continued Next Page)

DEPTH(ft bgs)	HOUR	DATE
19.0	N/A	09/23/2021

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: MW-74M

Page 6 of 6

PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926815	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-4929.7	120					BEDROCK MOQUI , continued	120	
-4924.7	125					Stopped core at 125.0 feet	125	
-4919.7	130						130	
-4914.7	135						135	
-4909.7	140						140	
-4904.7	145						145	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
19.0	N/A	09/23/2021

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: MW-73A

Page 2 of 2

PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926813	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5029.7	20						20	<p>6" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)</p> <p>Filter Pack (10-20 silica sand)</p> <p>6" Nominal diameter SCH 80 PVC Sump</p> <p>Bentonite Seal</p> <p>Threaded PVC End Cap</p>
						Note: sandy clay lense at 21.5 feet		
						BEDROCK , Sharp alluvium/Holbrook contact, approximately 10 inches thick, silty to fine grained sand, dark yellowish brown sandstone		
						Note: conglomerate containing 6-inche thick pebble sized siltstone and possible limestone at 23.0 feet		
5024.7	25					Note: gradational Holbrook/Moqui contact at 23.5 feet	25	
						Note: distinct greenish gray Moqui bands at 24.5 feet		
						Note: Moqui is dry at 25.5 feet		
						Stopped Core at 26.0 feet		
5019.7	30						30	
5014.7	35						35	
5009.7	40						40	
5004.7	45						45	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
18.9	N/A	09/23/2021

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926812	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5030.7	20					SILTY SAND , 55% fine grained sand, 45% fines, medium to high plasticity, reddish gray (5Y2 5/2) to dark reddish gray (5YR 4/2), wet, Holbrook cobbles	20	
5025.7	25				CL	SANDY CLAY 60% fines, 40% fine grained sand, gradational alluvial/Holbrook contact with clasts of Holbrook within alluvium, medium to high plasticity, reddish brown (2.5 YR 4/4), slightly moist	25	
5020.7	30					BEDROCK HOLBROOK, INTERBEDDED SILTSTONE AND SANDSTONE , sandstone is pale brown, silty to medium-grained, micaceous, competent, dry, Siltstone is predominately dark reddish brown, weathered, friable to brittle, and moist (low saturation). Note: Approximately 4.5-inch thick Holbrook sandstone clasts	30	
						MOQUI, SILSTONE Greenish-gray siltstone, moist (likely coming into driller casing from bottom of borehole) Stopped core at 30.5 feet		
5015.7	35						35	
5010.7	40						40	
5005.7	45						45	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
16.4	N/A	09/30/2021

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926814	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5030.5	20					SILTY SAND , continued	20	3" Nominal diameter SCH 80 PVC Casing
5025.5	25					BEDROCK, HOLBROOK FORMATION , interbedded siltstone and sandstone. Sandstone is pale brown, very fine to medium grained, silty and micaceous. Siltstone is dark reddish brown to reddish gray to pale red. Note: weathered sandy siltstone lense, brittle to friable, moist with moderate saturation at 24.0 to 25.5 feet Note: silty sandstone lense, very hard, micaceous, dry at 25.5 to 26.0 feet Note: moist at 26.0 to 33.0 feet	25	Cement Grout
5020.5	30					Note: moist to wet with moderate to high saturation, weathered dark reddish brown siltstone at 33.0 to 34.0 feet	30	Bentonite Seal
5015.5	35					BEDROCK, MOQUI MEMBER, SILSTONE , Interbedded siltstone and gypsum with light colored bands. Siltstone is pale reddish brown, friable to brittle, and thinly laminated. Gypsum is white, thin to thickly bedded, and thinly laminated. The light colored bands are greenish-gray siltstone Note: dry at 36.0 feet	35	Borehole changes diameter to 7" at 35'
5010.5	40					Note: moist with low saturation at 42.0 feet Note: dry at 42.5 feet	40	3" Nominal diameter SCH 80 PVC Casing
5005.5	45					GROUNDWATER	45	

(Continued Next Page)

DEPTH(ft bgs)	HOUR	DATE
16.7	N/A	9/30/2021

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926814	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5005.5	45					BEDROCK, MOQUI MEMBER, SILSTONE, continued Note: moist with low saturation at 45.5 feet	45	3" Nominal diameter SCH 80 PVC Casing
						Note: thick gypsum bed, moist with low saturation at 49.0 feet	50	Bentonite Seal
							55	Centralizer
								Transition Sand (20-40 silica sand)
								Filter Pack (10-20 silica sand)
								3" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
4995.5	55							
						Note: weathered siltstone, wet at 61.0 feet		
						Note: moist with medium saturation at 62.0 feet		
						Note: dry at 64.5 feet		
4990.5	60							
4985.5	65							
4980.5	70					Note: siltstone interbedded with thin gypsum beds at 69.0 to 70.0 feet	70	Threaded PVC End Cap

GROUNDWATER

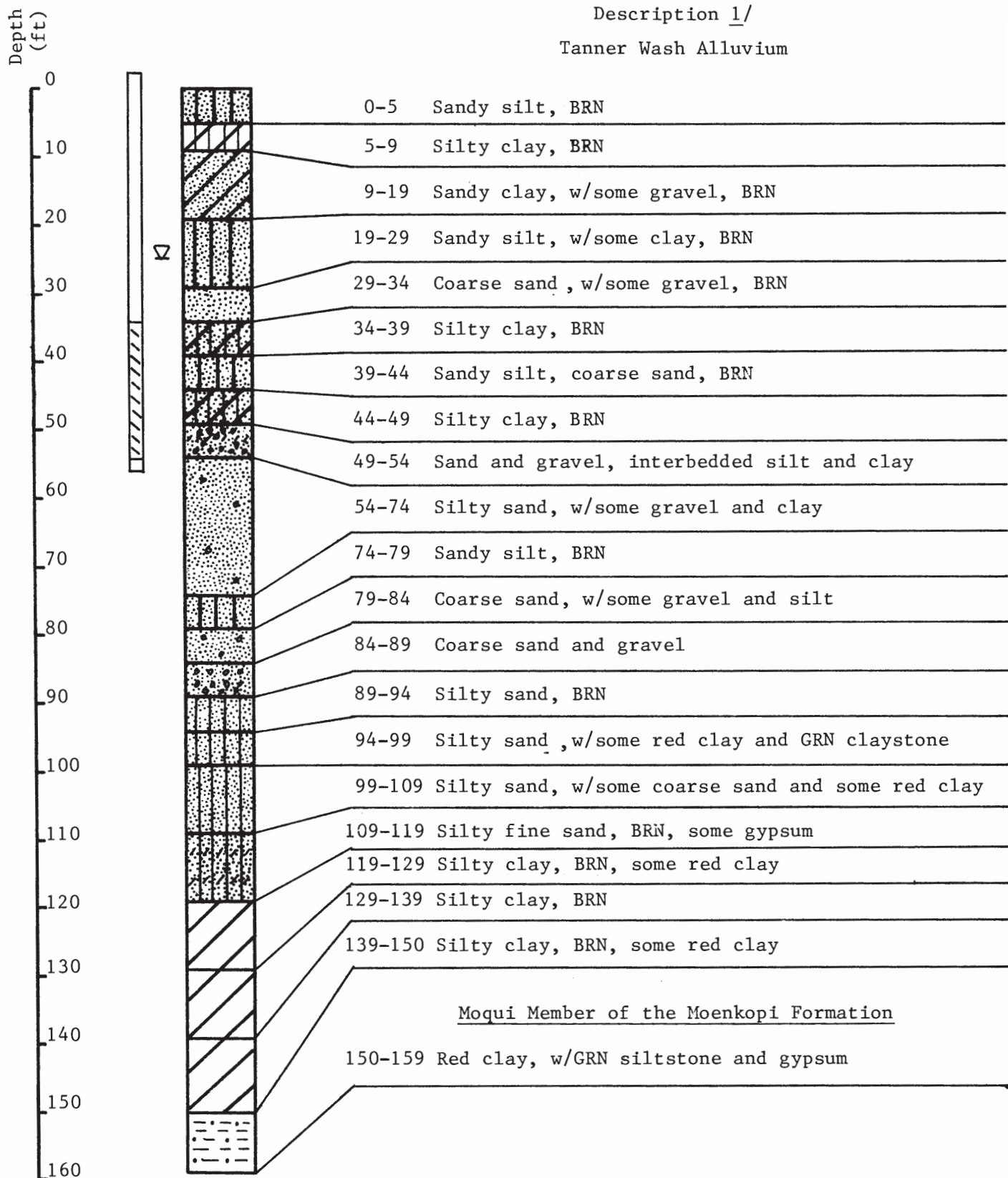
DEPTH(ft bgs)	HOUR	DATE
16.7	N/A	9/30/2021

METHOD _____

(Continued Next Page)

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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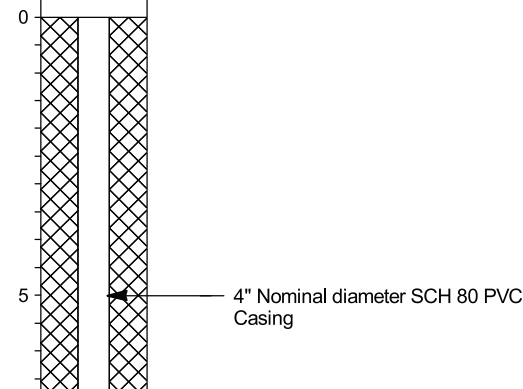
Log of Well: W-304



1/ Descriptions based on inspection of drill cuttings. Samples taken at 5 ft. intervals.

Note: Depth to water shown is for April 5, 1984

PROJECT:	AFS Cholla Bottom Ash Pond Pre-Design Studies			PROJECT LOCATION:	AFS Cholla Power Plant		
PROJECT MANAGER:	M. Henley			PROJECT FEATURE:	Bottom Ash Pond		
LOGGED BY:	M. Wuollet/ I. Torres			WOOD PROJECT #:	14-2018-2040		
DRILLER:	R. Sawrey			ADWR REG. #:	55-926106		
DRILLER FIRM:	Boart Longyear			COORDINATES:	N1436491.72, E662905.52		
RIG I.D.:	7939			COORDINATE SYS:	NAD83 AZ, East International Feet		
RIG TYPE:	Rotosonic LS 600			SURFACE ELEV. (FT):	5038.0		
BORING TYPE:	Cores	BORING DIA.:	8-inch	MEAS. PT. ELEV (FT):	5040.3		
ORIENTATION:	90°			VERTICAL DATUM:	N/A		
HAMMER TYPE:	N/A			START DATE:	05/06/2021	START TIME:	10:14
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:			N/A	COMPLETION DATE:	05/17/2021	COMPLETION TIME:	—

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5038.0	0					Hydro-excavated from 0 to 8 feet	0	
5033.0	5						5	

**TABLE A-3. LITHOLOGIC DESCRIPTIONS FOR
DRILL CUTTINGS FROM MONITOR WELL M-52A [55-918657]
CCR MONITOR WELLS
ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT**

DRILLING COMPANY: National

LOGGED BY: C. Stielstra

DEPTH DRILLED / LAND SURFACE ELEVATION: 38.0 feet / 5047.080 feet msl

DATE DRILLED: 9/21 - 9/22/2015

CADASTRAL / NAD83 : (A-18-19)24bbc / 1437475.711 N / 663614.281 E

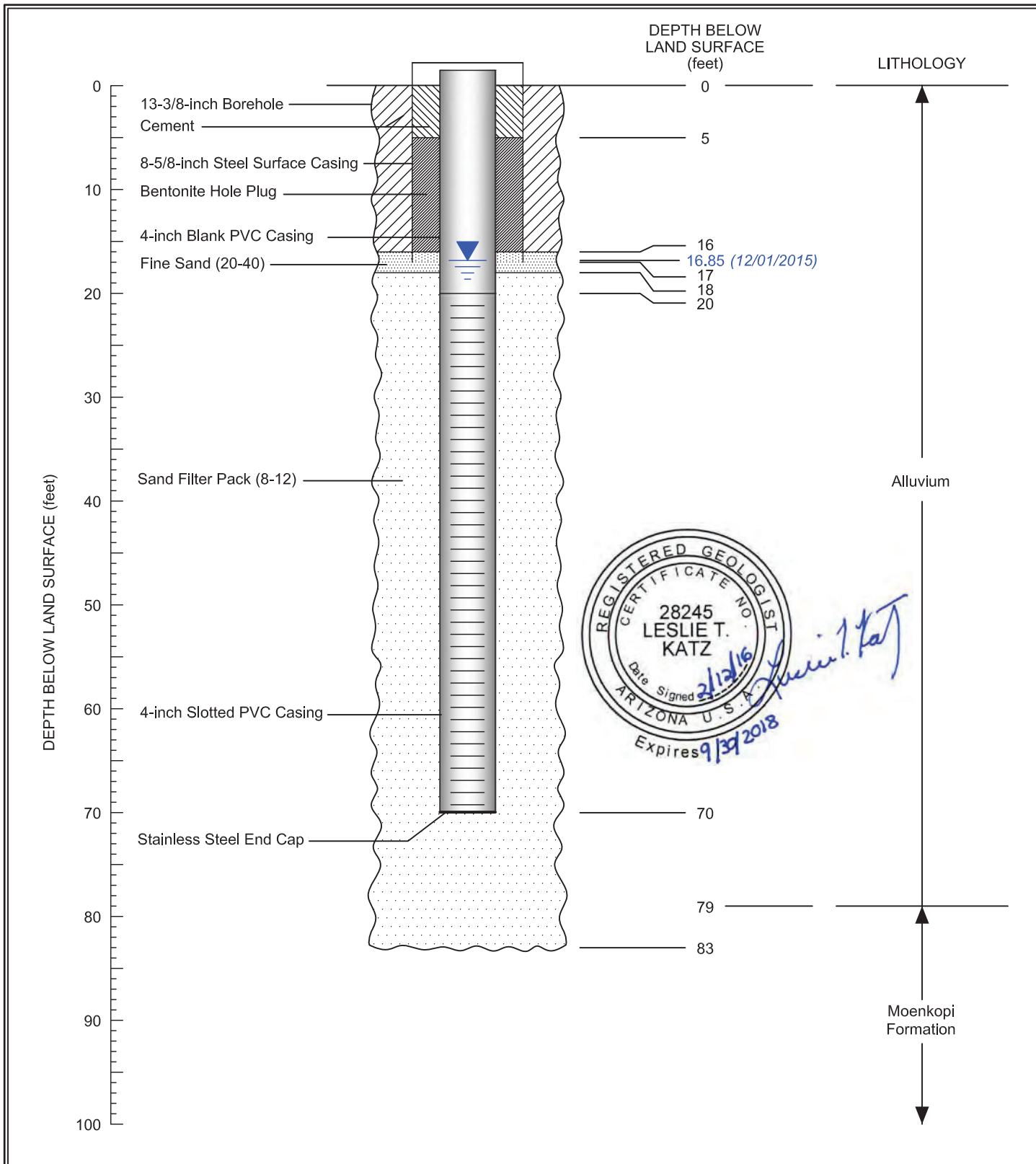
DEPTH INTERVAL (feet)	FORMATION	DESCRIPTION
QUATERNARY ALLUVIUM (Qal)		
0.0 - 5.0	Qal	CLAYEY SAND (SC): Reddish brown [5YR4/3]; subangular to rounded, fine to medium sand 65%, silt and clay 30%, gravel 5%. Gravel fraction: gravel to 0.6 in. consisting of multicolored chert. Non-lithified. Medium to high plasticity. Well graded. Reaction to acid: strong.
5.0 - 10.0	Qal	CLAYEY SAND (SC): Reddish brown [5YR4/3]; subangular to rounded, fine to medium sand 65%, silt and clay 30%, gravel 5%. Gravel fraction: gravel to 0.4 in. consisting of multicolored chert. Non-lithified. Medium to high plasticity. Well graded. Reaction to acid: strong.
10.0 - 15.0	Qal	SILTY GRAVEL WITH SAND (GM): Reddish brown [5YR4/3]; gravel 50%, subangular to rounded, fine to coarse sand 30%, silt and clay 20%. Gravel fraction: gravel to 0.9 in. consisting of multicolored chert. Non-lithified. Low to medium plasticity. Well graded. Reaction to acid: moderate.
15.0 - 20.0	Qal	SILTY SAND WITH GRAVEL (SM): Dark reddish gray [5YR4/2]; subangular fine sand 55%, gravel 30%, silt and clay 15%. Gravel fraction: gravel to 0.8 in. consisting of multicolored chert. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
20.0 - 25.0	Qal	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM): Dark reddish gray [5YR4/2]; subangular fine sand 65%, gravel 25%, silt and clay 10%. Gravel fraction: gravel to 0.7 in. consisting of multicolored chert. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
25.0 - 30.0	Qal	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM): Dark reddish gray [5YR4/2]; subangular to rounded fine sand 65%, gravel 25%, silt and clay 10%. Gravel fraction: gravel to 0.9 in. consisting of multicolored chert. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
30.0 - 35.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 85%, silt and clay 10%, gravel 5%. Gravel fraction: gravel to 0.4 in. consisting of chert and fine grained brown sandstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
35.0 - 40.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 80%, gravel 10%, silt and clay 10%. Gravel fraction: gravel to 0.5 in. consisting of chert and fine grained brown sandstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
40.0 - 45.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 85%, silt and clay 10%, gravel 5%. Gravel fraction: gravel to 0.4 in. consisting of chert and fine grained brown sandstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.

Gravel/sand division based on USCS scale. Grain size fractions estimated using manual field methods.


**TABLE A-3. LITHOLOGIC DESCRIPTIONS FOR
DRILL CUTTINGS FROM MONITOR WELL M-52A [55-918657]
CCR MONITOR WELLS
ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT**

DEPTH INTERVAL (feet)	FORMATION	DESCRIPTION
45.0 - 50.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 85%, silt and clay 10%, gravel 5%. Gravel fraction: gravel to 0.6 in. consisting of chert and fine grained brown sandstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
50.0 - 55.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 85%, silt and clay 10%, gravel 5%. Gravel fraction: gravel to 0.5 in. consisting of chert and fine grained brown sandstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
55.0 - 60.0	Qal	WELL GRADED SAND WITH SILT (SW-SM): Reddish brown [5YR4/3]; angular to rounded fine sand 85%, silt and clay 10%, gravel 5%. Gravel fraction: gravel to 0.3 in. consisting of chert, fine grained brown sandstone, and trace siltstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
60.0 - 65.0	Qal	WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM): Moderate brown [5YR4/4]; angular to rounded fine sand 65%, gravel 25%, silt and clay 10%. Gravel fraction: gravel to 2.3 in. consisting of fine grained brown sandstone, green sandy siltstone, and trace chert. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
65.0 - 70.0	Qal	WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM): Moderate brown [5YR4/4]; gravel 60%, angular to rounded fine sand 30%, silt and clay 10%. Gravel fraction: gravel to 2.6 in. consisting of chert, fine grained brown sandstone, and green sandy siltstone. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
70.0 - 75.0	Qal	WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM): Moderate brown [5YR4/4]; gravel 70%, angular to rounded fine sand 20%, silt and clay 10%. Gravel fraction: gravel to 0.6 in. consisting of fine grained brown sandstone, red and green sandy siltstone, and trace chert. Non-lithified. Low plasticity. Well graded. Reaction to acid: moderate.
75.0 - 79.0	Qal	WELL GRADED GRAVEL WITH SILT AND SAND (GW-GM): Moderate brown [5YR4/4]; gravel 70%, angular to rounded fine sand 20%, silt and clay 10%. Gravel fraction: gravel to 1.4 in. consisting of fine grained brown sandstone, red and green sandy siltstone, and trace chert. Non-lithified to moderately lithified. Low to medium plasticity. Well graded. Reaction to acid: weak to moderate.
TRIASSIC MOENKOPI FORMATION (TRm)		
79.0 - 83.0	TRm	SANDSTONE AND SILTSTONE: Moderate brown [5YR4/4]; Weakly to moderately lithified. Reaction to acid: weak to moderate.

Gravel/sand division based on USCS scale. Grain size fractions estimated using manual field methods.



EXPLANATION

 Depth to Water Level

Note: All PVC blank and slotted casing is Schedule 80; slot size is 0.020 inches.

WELL: M-52A (BAP-2D)	NORTHING: 1437475.71
REGISTRATION: 55-918657	EASTING: 663614.28
COUNTY: Navajo, Arizona	MP Elevation: 5049.363 feet amsl
DATE COMPLETED: 09/21/15	DATUM: NAD83, State Plane 1983

**SCHEMATIC DIAGRAM OF CONSTRUCTION FOR ALLUVIAL WELL M-52A
APS CHOLLA POWER PLANT**



2016

IGOR 03

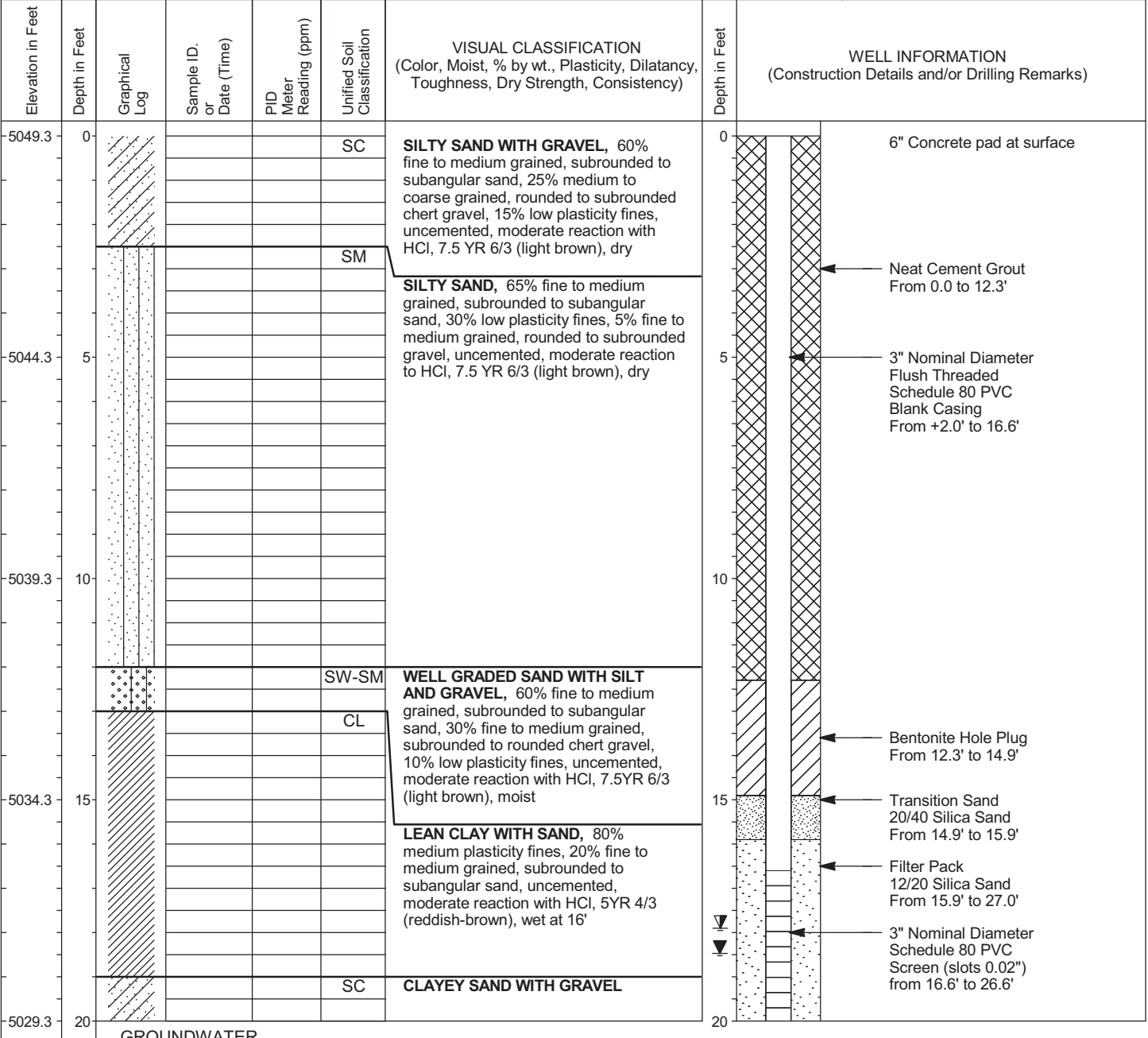


Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: MW-69A

Page 1 of 3

PROJECT:	APS Cholla Plant Hydrogeologic Investigation		PROJECT LOCATION:	APS Cholla Power Plant	
LOGGED BY:	D. Andersen		PROJECT FEATURE:	Bottom Ash Pond	
DRILLER:	C. Patterson		WOOD PROJECT #:	14-2018-2040	
DRILLER FIRM:	Boart Longyear		ADWR REG. #:	55-923618	
RIG I.D.:	SR-112		STATION/OFFSET:	N/A	
RIG TYPE:	Sonic		REFERENCE:	N/A	
BORING TYPE:	N/A	BORING DIA.:	9"	COORDINATES:	N1437462.107, E663637.500
ORIENTATION:	90°		COORDINATE SYS:	NAD83	
HAMMER TYPE:	N/A		SURFACE ELEV. (FT):	5049.25	
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:			N/A		
START DATE:	11/18/2019		START TIME:	10:58	
			COMPLETION DATE:	11/18/2019	
			COMPLETION TIME:	12:17	



DEPTH(ft bgs)	HOUR	DATE
21.5	---	11/20/19
18.5	---	11/21/19
17.9	---	11/23/19

METHOD N/A

(Continued Next Page)

PROJECT:	APS Cholla Plant Hydrogeologic Investigation	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-923618	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-5029.3	20				SC	CLAYEY SAND WITH GRAVEL , 45% fine and medium grained, subrounded to subangular sand, 35% fine and medium grained, subrounded to rounded chert gravel, 20% medium plasticity fines, uncemented, moderate reaction with HCl, 5YR 4/3 (reddish-brown), wet, fining up sequence with chert gravel layer at 25'	20	(Continued)
-5024.3	25				CL	LEAN CLAY WITH SAND , 70% medium plasticity fines, 25% fine and medium grained, subrounded to subangular sand, 5% fine grained, rounded chert gravel, uncemented, no HCL reaction, 5 YR 4/3 (reddish-brown), wet	25	Filter Pack 12/20 Silica Sand From 15.9' to 27.0'
-5019.3	30				SC	CLAYEY SAND WITH GRAVEL , 50% fine and medium grained, subrounded to subangular sand, 35% fine and coarse grained, rounded chert gravel, 15% medium plasticity fines, uncemented, moderate reaction with HCl, 5YR 4/3 (reddish-brown), wet, fining up sequence	30	3" Nominal Diameter Schedule 80 PVC Screen (slots 0.02") from 16.6' to 26.6'
-5014.3	35				CL	LEAN CLAY WITH SAND , 60% medium plasticity fines, 35% fine and medium grained, subrounded to subangular sand, 5% fine grained, rounded chert gravel, uncemented, no HCL reaction, 5 YR 4/3 (reddish-brown), wet	35	End Cap
-5009.3	40					MOQUI MEMBER OF THE MOENKOPI FORMATION , highly weathered, brownish-red colored mudstone and claystone with sand-sized fragments of subangular and fine grained grayish-green colored siltstone, mudstone and claystone weathered to clay consistency, siltstone fragments present in clayey matrix, angular fragments of gypsum, weak reaction to HCl, wet	40	Bentonite Hole Plug From 27.0' to 52.0'
-5004.3	45						45	

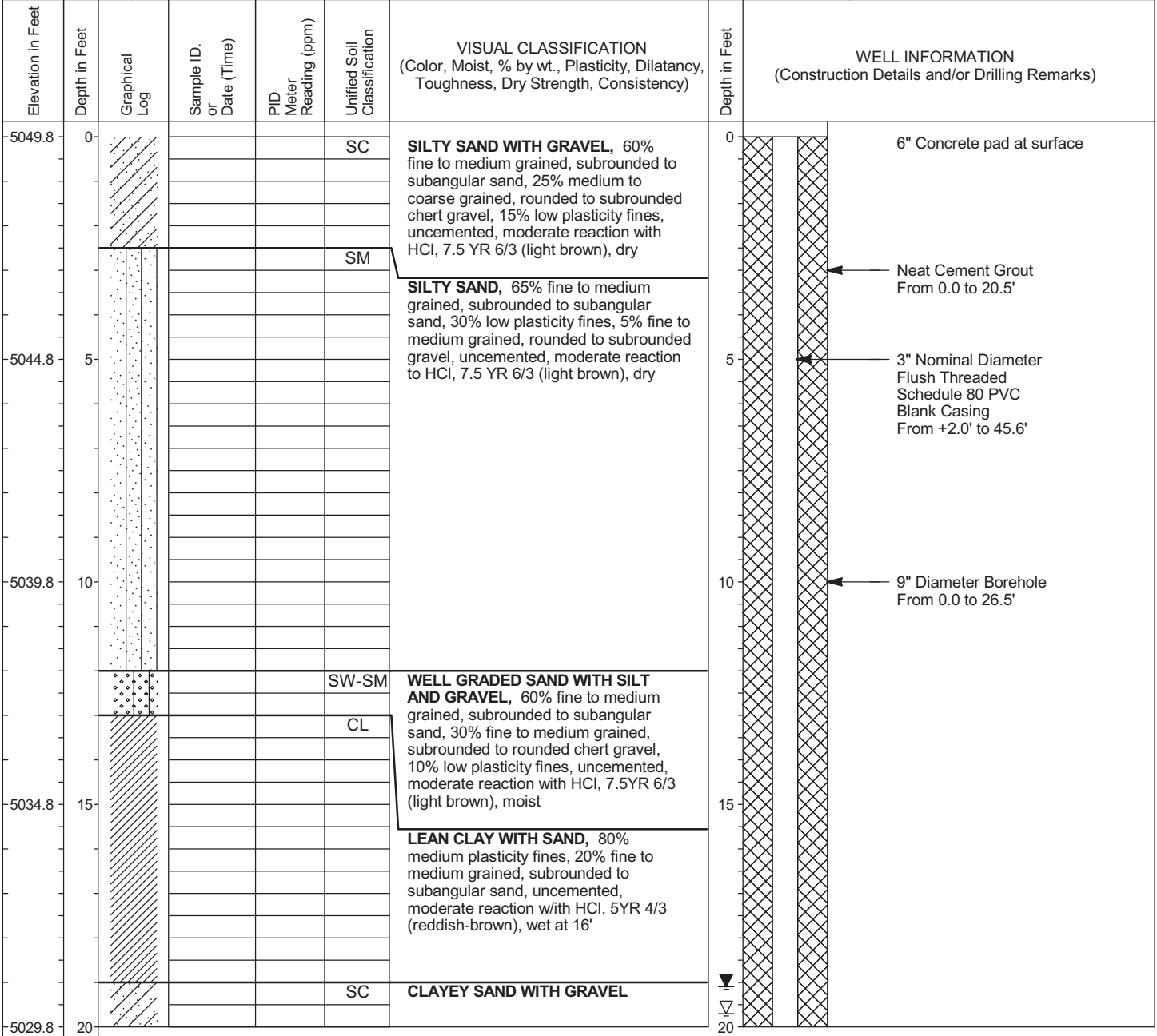
GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
21.5	---	11/20/19
18.5	---	11/21/19
17.9	---	11/23/19

METHOD N/A

(Continued Next Page)

PROJECT:	APS Cholla Plant Hydrogeologic Investigation		PROJECT LOCATION:	APS Cholla Power Plant	
LOGGED BY:	D. Andersen		PROJECT FEATURE:	Bottom Ash Pond	
DRILLER:	C. Patterson		WOOD PROJECT #:	14-2018-2040	
DRILLER FIRM:	Boart Longyear		ADWR REG. #:	55-923582	
RIG I.D.:	SR-112		STATION/OFFSET:	N/A	
RIG TYPE:	Sonic		REFERENCE:	N/A	
BORING TYPE:	N/A	BORING DIA.:	9" to 7"	COORDINATES:	N1437468.038, E663648.643
ORIENTATION:	90°		COORDINATE SYS:	NAD83	
HAMMER TYPE:	N/A		SURFACE ELEV. (FT):	5049.80	
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:			N/A	VERTICAL DATUM:	NAVD88
START DATE:	11/20/2019	START TIME:	12:10	COMPLETION DATE:	11/21/2019
				COMPLETION TIME:	10:42



GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
19.7	---	11/21/19
19.1	---	11/22/19

METHOD N/A

(Continued Next Page)

PROJECT:	APS Cholla Plant Hydrogeologic Investigation	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-923582	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5029.8	20				SC	CLAYEY SAND WITH GRAVEL , 45% fine and medium grained, subrounded to subangular sand, 35% fine and medium grained, subrounded to rounded chert gravel, 20% medium plasticity fines, uncemented, moderate reaction with HCl, 5YR 4/3 (reddish-brown), wet, fining up sequence with chert gravel layer at 25'	20	(Continued)
5024.8	25				CL	LEAN CLAY WITH SAND , 70% medium plasticity fines, 25% fine and medium grained, subrounded to subangular sand, 5% fine grained, rounded chert gravel, uncemented, no HCL reaction, 5 YR 4/3 (reddish-brown), wet	25	7" Diameter Borehole From 26.5' to 77.5'
5019.8	30				SC	CLAYEY SAND WITH GRAVEL , 50% fine and medium grained, subrounded to subangular sand, 35% fine and coarse grained, rounded chert gravel, 15% medium plasticity fines, uncemented, moderate reaction with HCl, 5YR 4/3 (reddish-brown), wet, fining up sequence	30	Bentonite Hole Plug From 20.5' to 43.0'
5014.8	35				CL	LEAN CLAY WITH SAND , 60% medium plasticity fines, 35% fine and medium grained, subrounded to subangular sand, 5% finegrained, rounded chert gravel, uncemented, no HCL reaction, 5 YR 4/3 (reddish-brown), wet	35	
5009.8	40					MOQUI MEMBER OF THE MOENKOPI FORMATION , highly weathered, brownish-red colored mudstone and claystone with sand-sized fragments of subangular and fine grained, grayish-green colored siltstone, mudstone and claystone weathered to clay consistency, siltstone fragments present in clayey matrix, angular fragments of gypsum, weak reaction to HCl, wet with high water production at approximately 67', coarse grained, rounded gravels present at 67', gypsum stringer at ~72'	40	
5004.8	45						45	Transition Sand 20/40 Silica Sand From 43.0' to 44.0' Filter Pack 12/20 Silica Sand From 44.0' to 76.0'

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
19.7	---	11/21/19
19.1	---	11/22/19

METHOD N/A

(Continued Next Page)

PROJECT:	APS Cholla Plant Hydrogeologic Investigation	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-923582	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-4979.8	70	[Graphical Log: Dashed pattern]				MOQUI MEMBER OF THE MOENKOPI FORMATION, continued	70	(Continued) 3" Nominal Diameter Schedule 80 PVC Screen (slots 0.02") from 45.6' to 75.6' Filter Pack 12/20 Silica Sand From 44.0' to 76.0' End Cap Slough From 76.0' to 77.5' Total Depth = 77.5'
-4974.8	75					MOQUI MEMBER OF THE MOENKOPI FORMATION, competent, unweathered, brownish-red colored mudstone and claystone interbedded with grayish-green colored siltstone, weak reaction to HCl, dry	75	
						Total Depth = 77.5'		
-4969.8	80						80	
-4964.8	85						85	
-4959.8	90						90	
-4954.8	95						95	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
19.7	---	11/21/19
19.1	---	11/22/19

METHOD N/A

PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926100	PROJECT FEATURE:	Bottom Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5004.4	45					SANDY CLAY , continued	45	
					SC	CLAYEY SAND , 60% fine to medium grained, subrounded sand, 35% medium to high plasticity fines, 5% coarse grained subrounded to rounded gravel, slight reaction with HCl, 5 YR 5/4 (reddish brown), very wet/saturated		
4999.4	50					BEDROCK MOQUI , Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominately brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionally cross-cuts siltstone and predominantly friable Note: No greenish gypsum fragments present at 51 feet	50	6" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
4994.4	55					Note: 70% high plasticity fines, 30% fine grained sand, rare greenish gypsum fragments present at 55 feet	55	
4989.4	60					Note: 80% high plasticity fines, 20% fine grained sand at 61 feet	60	Filter Pack (12-20 silica sand)
4984.4	65					Note: Wet at 65 feet	65	
4979.4	70					Note: Moist at 67 feet	70	

GROUNDWATER

(Continued Next Page)

DEPTH(ft bgs)	HOUR	DATE
18.5	N/A	05/05/2021
▼		
▼		
▼		

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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PROJECT:	APS Cholla Bottom Ash Pond Pre-Design Studies	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926100	PROJECT FEATURE:	Bottom Ash Pond


Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
-4979.4	70					BEDROCK MOQUI , continued	70	<p>6" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)</p> <p>Filter Pack (12-20 silica sand)</p> <p>6" Nominal diameter SCH 80 PVC Sump</p> <p>Threaded PVC End Cap</p> <p>Bentonite Seal</p>
						Note: Wet at 73 feet		
-4974.4	75					Note: Moist at 75 feet	75	
						Note: Moist to Wet at 77 feet		
-4969.4	80					Note: Dry at 82 feet	80	
-4964.4	85				Stopped core at 84.0 feet	85		
-4959.4	90					90		
-4954.4	95					95		

GROUNDWATER

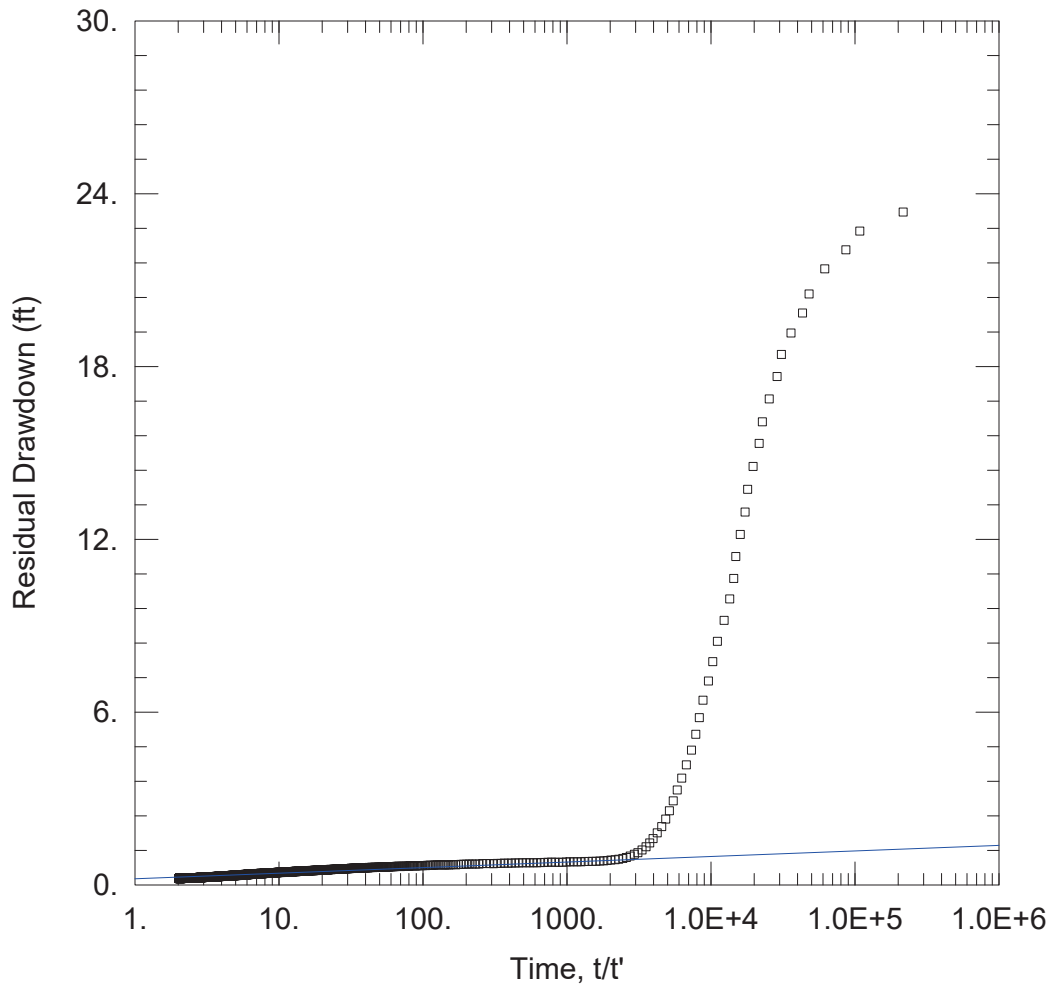
DEPTH(ft bgs)	HOUR	DATE
18.5	N/A	05/05/2021
▼		
▼		
▼		

METHOD _____

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
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D AQTESOLV WELL
TEST ANALYSIS
RESULTS



WELL TEST ANALYSIS

Data Set: X:\...W-307R_T_Rec_C.aqt
 Date: 08/29/23

Time: 08:20:57

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: W-307R
 Test Date: 6/13/2023

AQUIFER DATA

Saturated Thickness: 45.14 ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
W-307R	664514.4442	1437015.814	□ W-307R	664514.4442	1437015.814

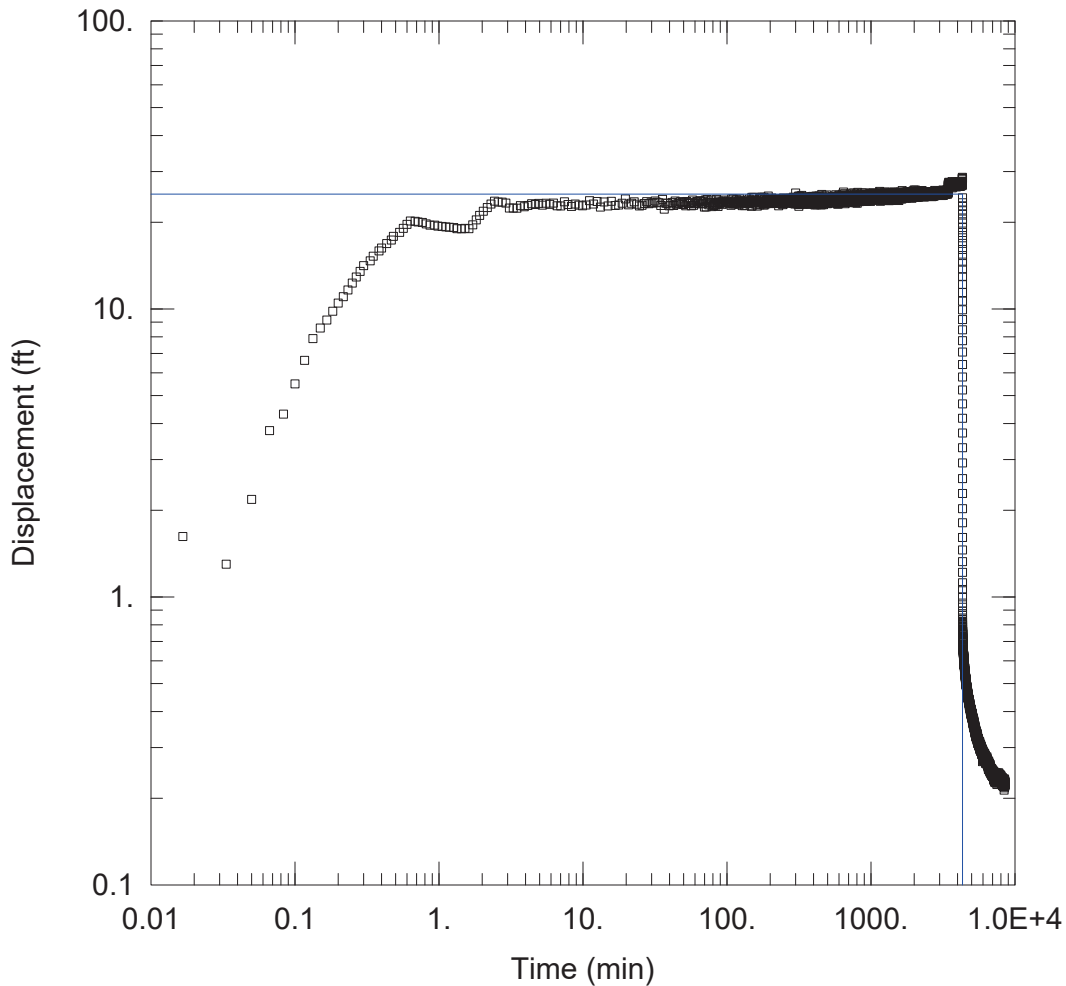
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 5115.8 ft²/day

S/S' = 0.07781



WELL TEST ANALYSIS

Data Set: X:\...\W-307R_HJ.aqt
 Date: 08/29/23

Time: 08:29:38

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: W-307R
 Test Date: 6/13/2023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
W-307R	664514.4442	1437015.814	□ W-307R	664514.4442	1437015.814

SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

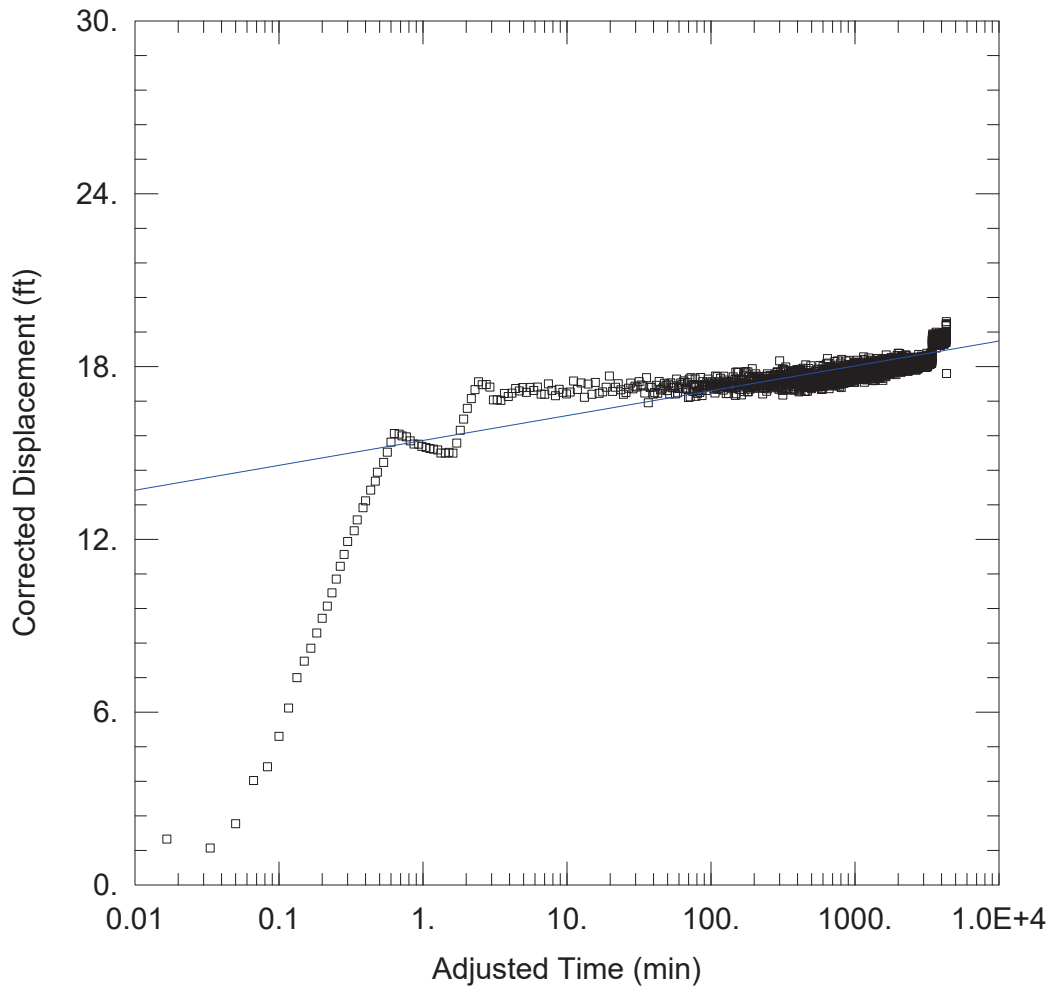
T = 126.3 ft²/day

S = 5.135E-8

r/B = 0.09457

Kz/Kr = 0.1

b = 45.14 ft



WELL TEST ANALYSIS

Data Set: X:\...\W-307R_CJ_UC.aqt
 Date: 08/29/23

Time: 08:32:18

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: W-307R
 Test Date: 6/13/2023

AQUIFER DATA

Saturated Thickness: 45.14 ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
W-307R	664514.4442	1437015.814	□ W-307R	664514.4442	1437015.814

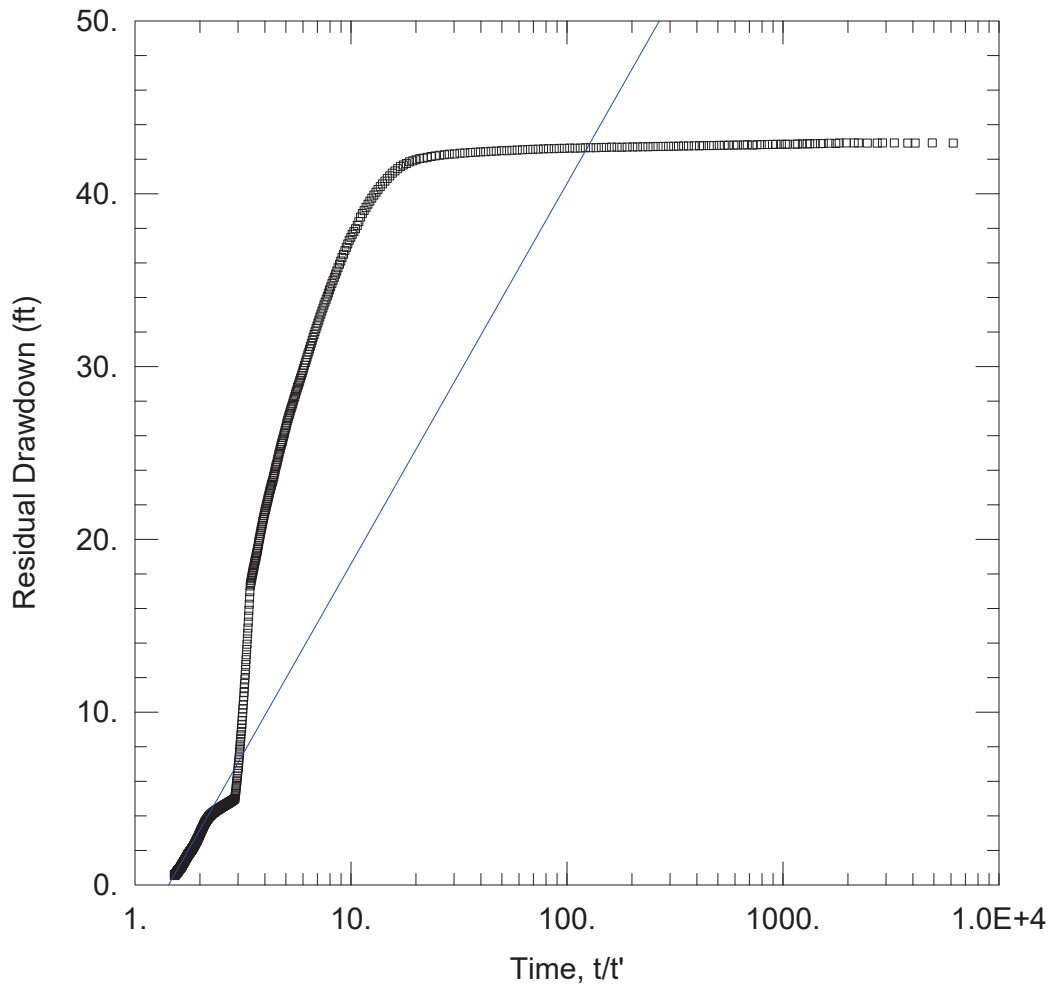
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 1144.2 ft²/day

S = 2.17E-17



M-52A CRT

Data Set: X:\...\M-52A_T_REC.aqt
 Date: 08/29/23

Time: 08:50:36

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

AQUIFER DATA

Saturated Thickness: 54.65 ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ M-52A	663617.5011	1437473.734

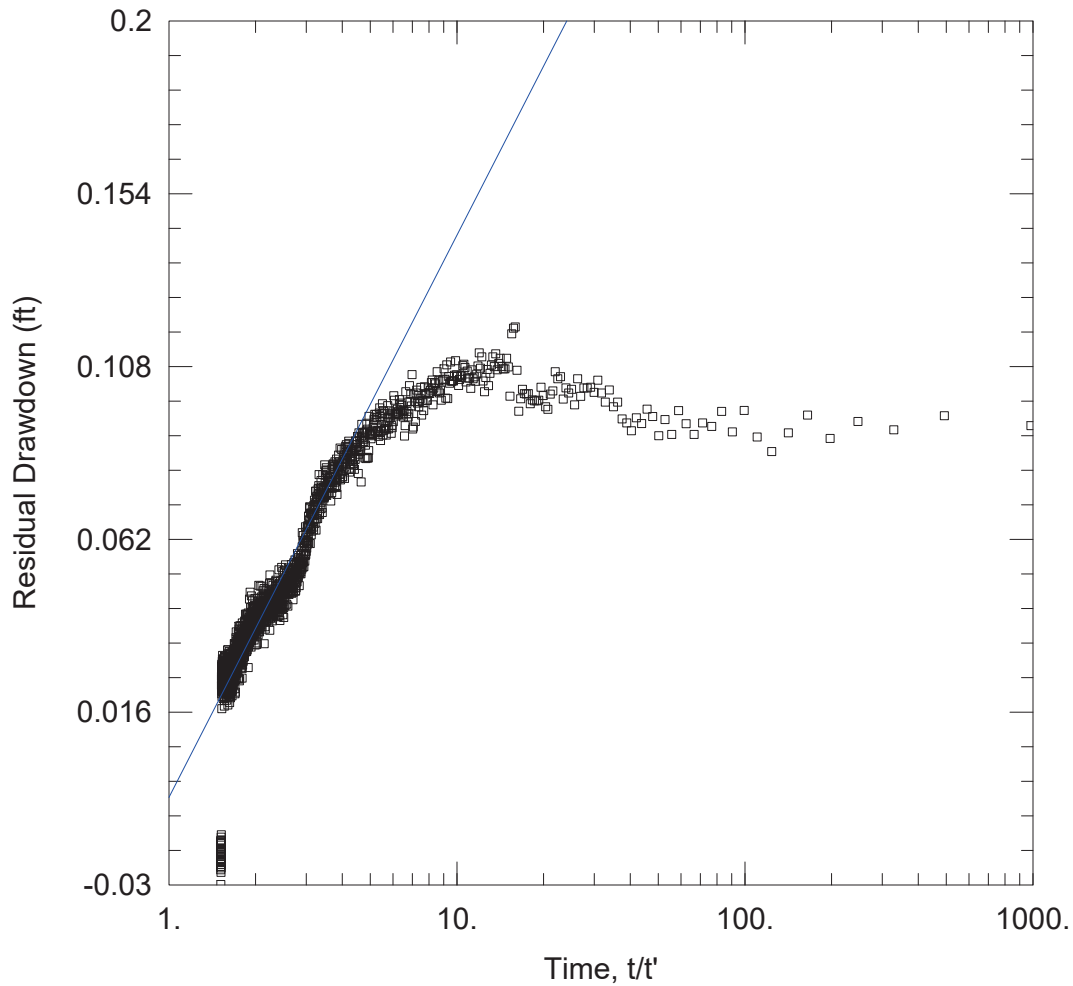
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 1.218 ft²/day

S/S' = 1.433



M-52A CRT

Data Set: X:\...\MW-70M_T_REC.aqt
 Date: 08/29/23

Time: 08:51:47

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

AQUIFER DATA

Saturated Thickness: 54.65 ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ MW-70M	663648.7685	1437468.043

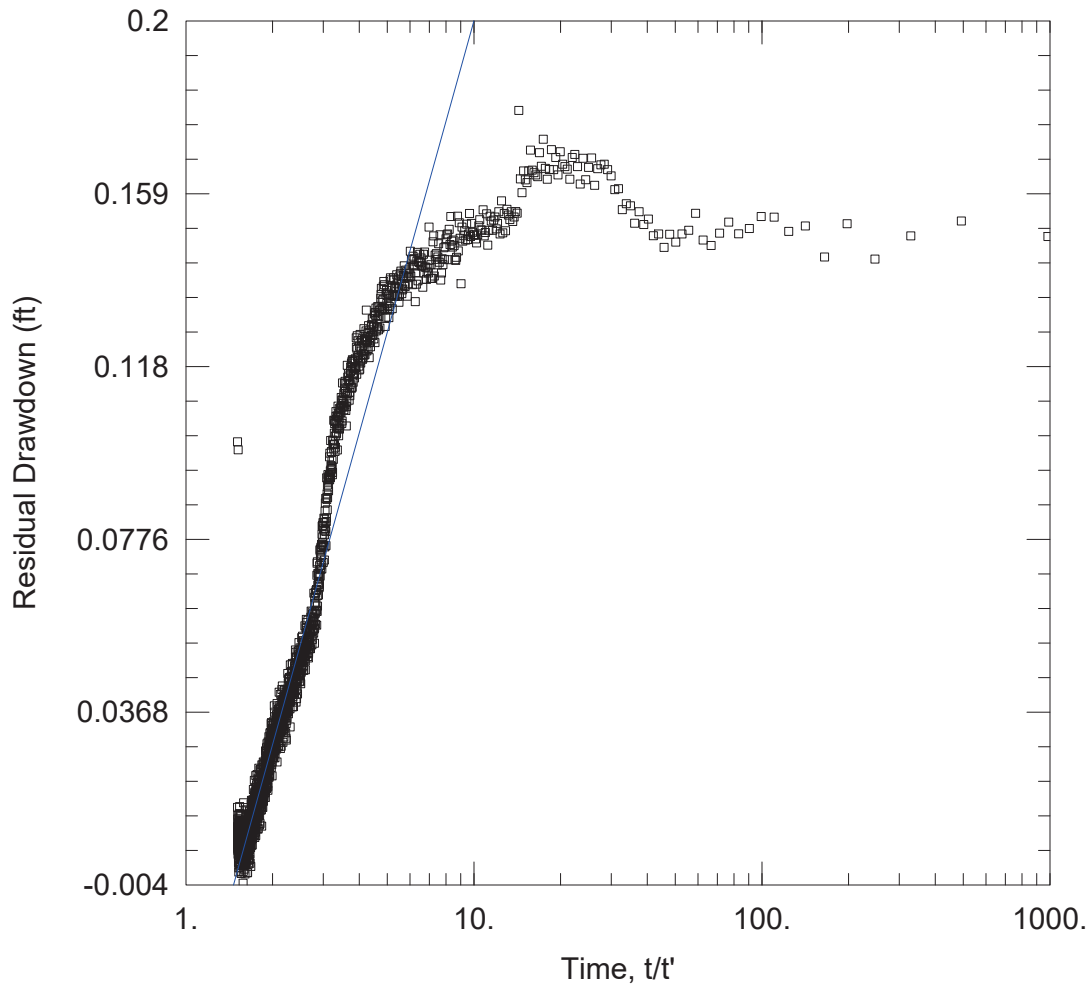
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 179.2 ft²/day

S/S' = 1.109



M-52A CRT

Data Set: X:\...\TDX-5_T_Rec.aqt
 Date: 08/29/23

Time: 08:54:09

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

AQUIFER DATA

Saturated Thickness: 54.65 ft

Anisotropy Ratio (Kz/Kr): 0.1023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ TDX-5	663616.1225	1437435.836

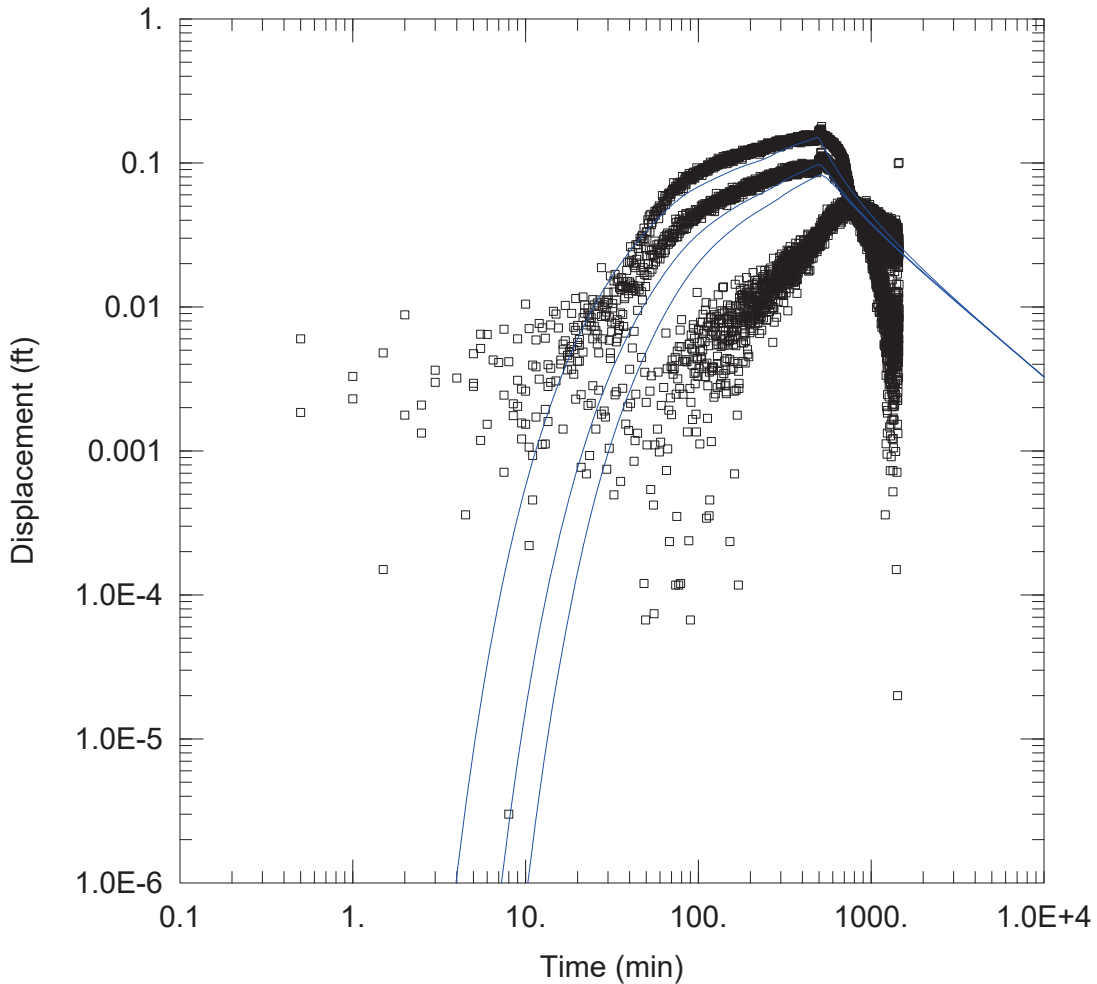
SOLUTION

Aquifer Model: Confined

Solution Method: Theis (Recovery)

T = 109.7 ft²/day

S/S' = 1.52



M-52A CRT

Data Set: X:\...\All observation_HJ.aqt
 Date: 08/29/23

Time: 08:38:00

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734

Well Name	X (ft)	Y (ft)
□ <u>TDX-5</u>	663616.1225	1437435.836
□ <u>MW-70M</u>	663648.7685	1437468.043
□ <u>MW-69A</u>	663636.1136	1437459.221

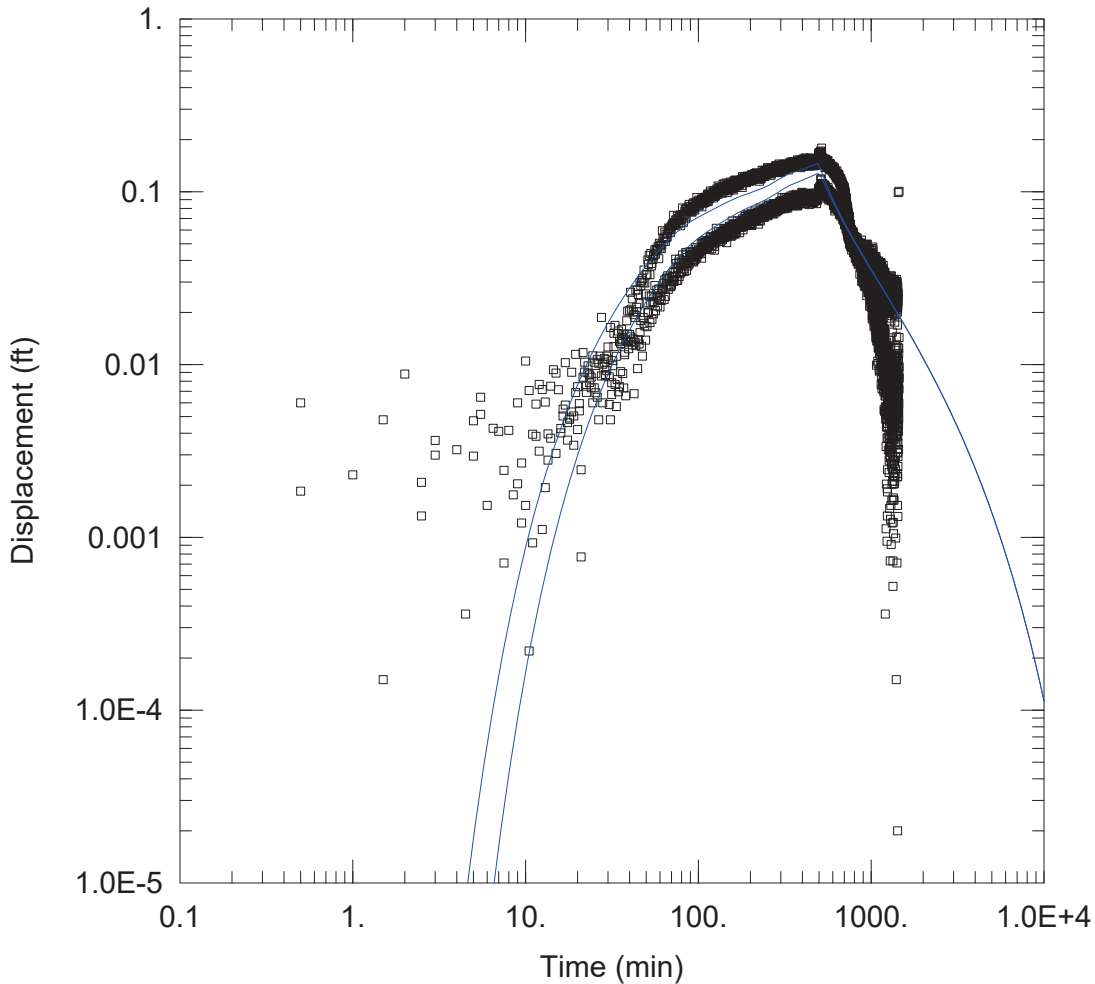
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 179.7 ft²/day
 1/B = 2.637E-7 ft⁻¹
 b = 54.65 ft

S = 0.03241
 Kz/Kr = 0.1



M-52A CRT

Data Set: X:\...\TDX-5_MW-70M_HJ.aqt
 Date: 08/29/23

Time: 08:38:56

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734

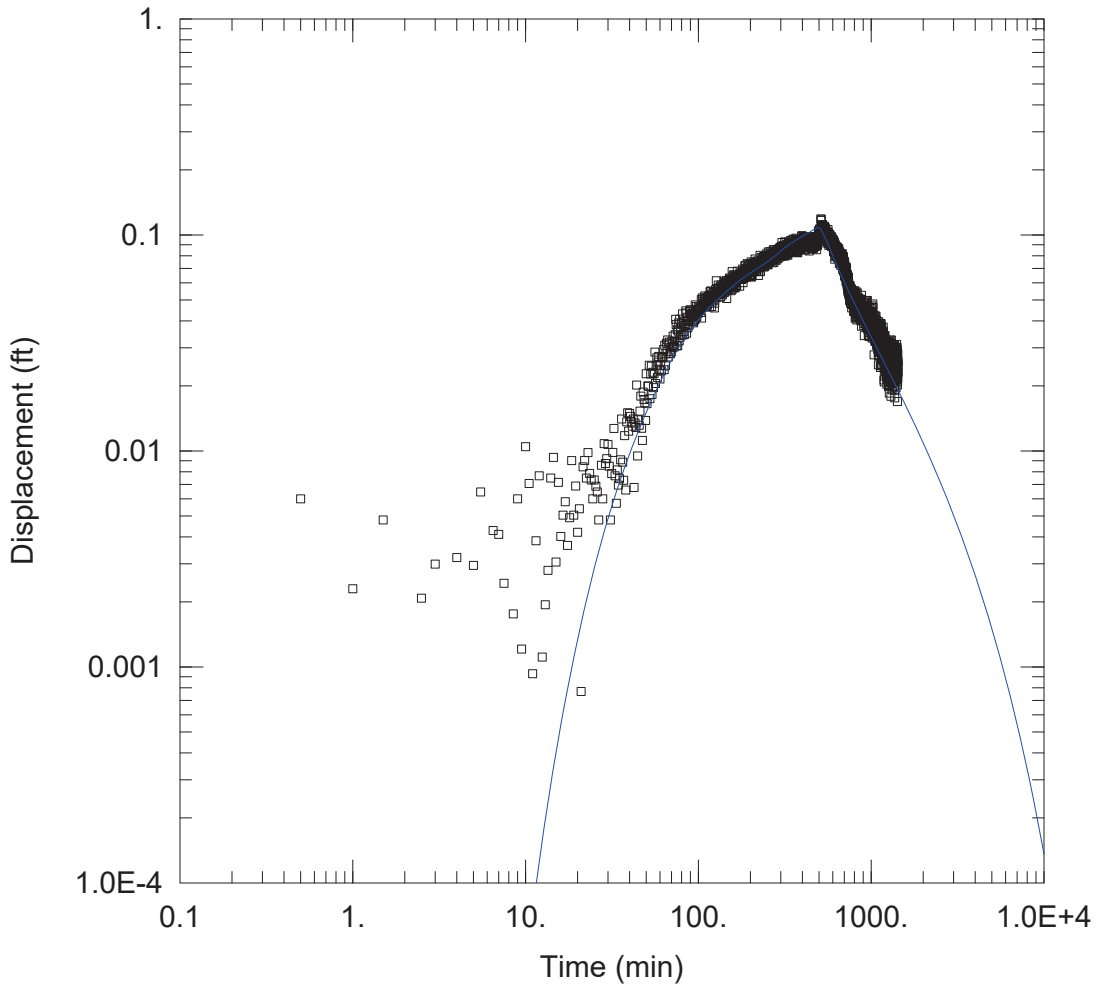
Observation Wells

Well Name	X (ft)	Y (ft)
□ <u>TDX-5</u>	663616.1225	1437435.836
□ <u>MW-70M</u>	663648.7685	1437468.043

SOLUTION

Aquifer Model: Leaky
 $T = 157.7 \text{ ft}^2/\text{day}$
 $1/B = 0.006812 \text{ ft}^{-1}$
 $b = 54.65 \text{ ft}$

Solution Method: Hantush-Jacob
 $S = 0.01419$
 $Kz/Kr = 0.1$



M-52A CRT

Data Set: X:\...\MW-70M_HJ_2.aqt
 Date: 08/29/23

Time: 08:40:42

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ MW-70M	663648.7685	1437468.043

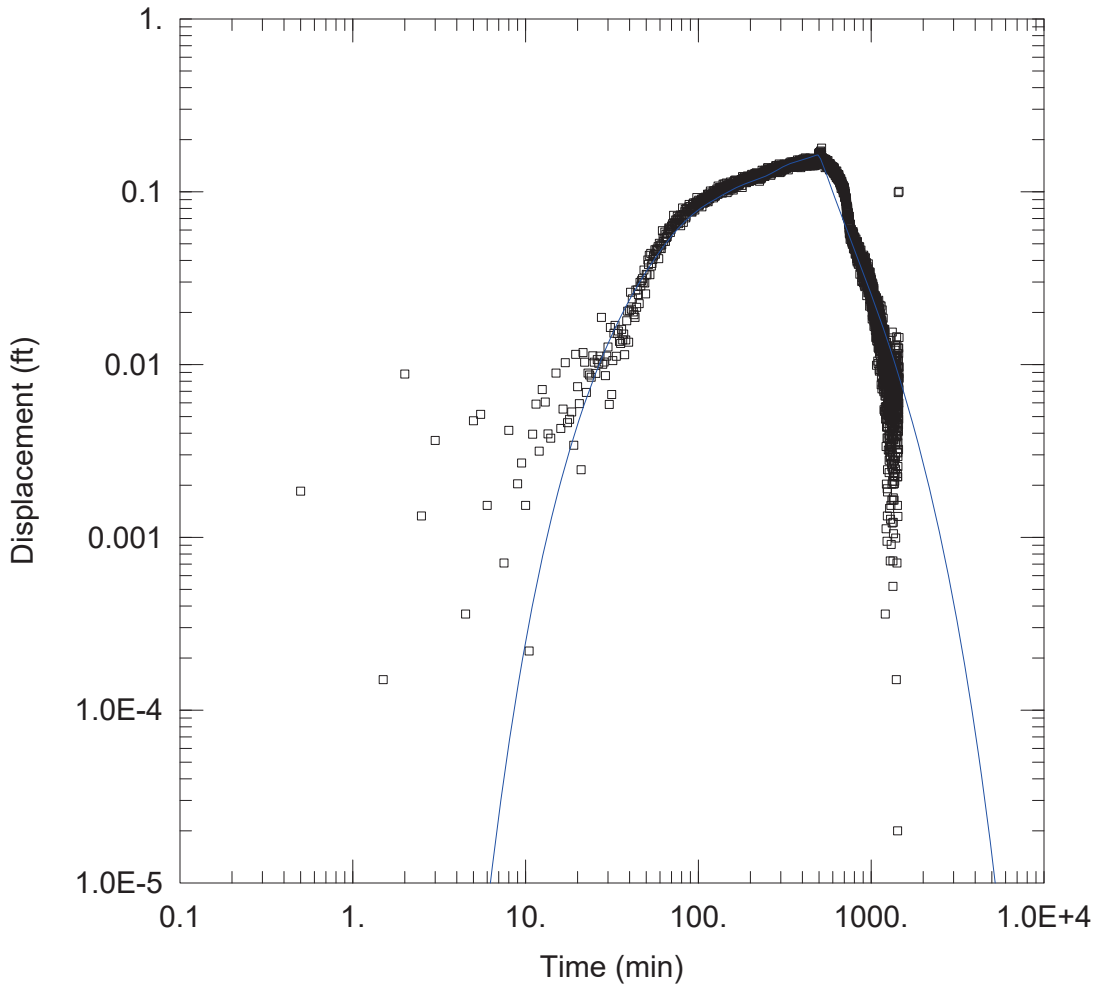
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 160.1 ft²/day
 r/B = 0.2806
 b = 54.65 ft

S = 0.02567
 Kz/Kr = 0.1



M-52A CRT

Data Set: X:\...\TDX-5_HJ.aqt
 Date: 08/29/23

Time: 08:42:13

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

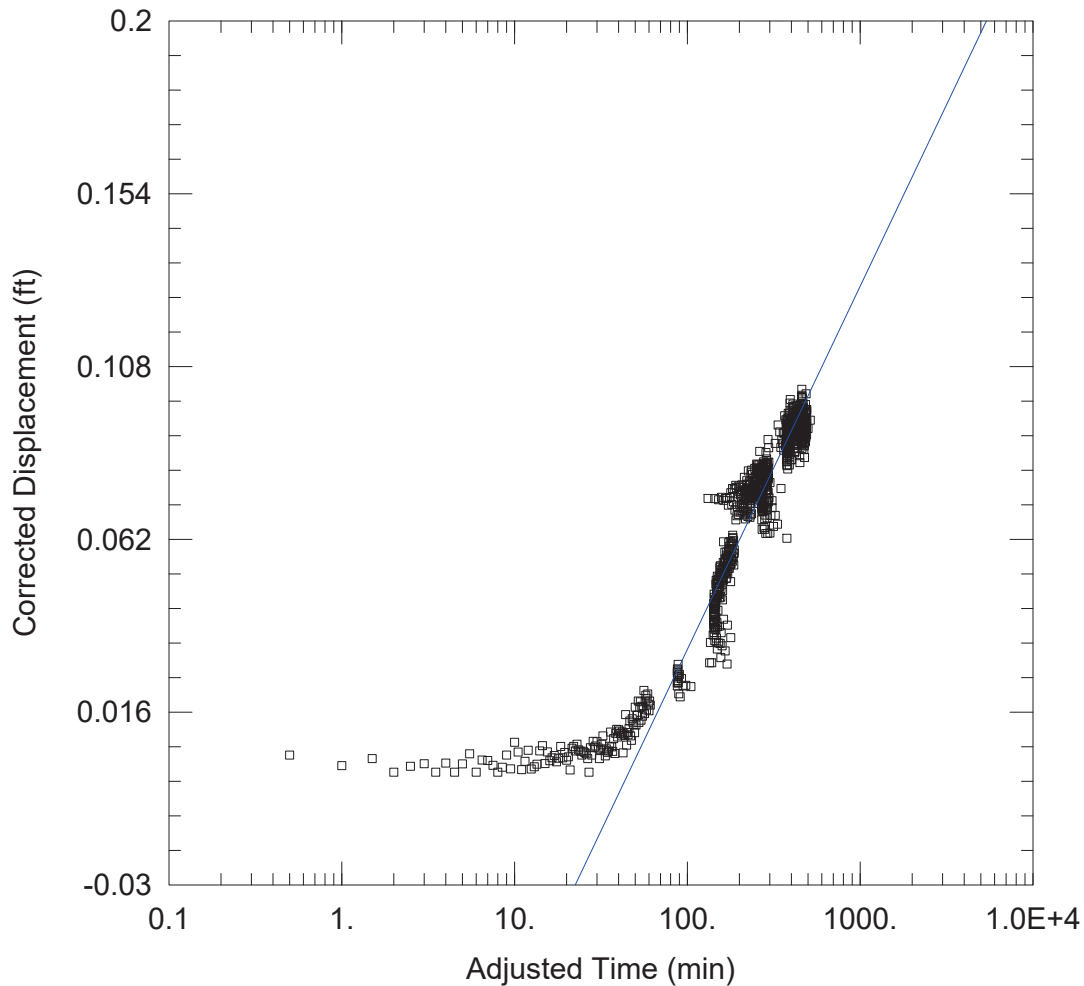
WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ TDX-5	663616.1225	1437435.836

SOLUTION

Aquifer Model: Leaky
 T = 101.3 ft²/day
 r/B = 0.5144
 b = 54.65 ft

Solution Method: Hantush-Jacob
 S = 0.009166
 Kz/Kr = 0.1023



M-52A CRT

Data Set: X:\...\MW-70M_CJ_UF.aqt
 Date: 08/29/23

Time: 08:43:32

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

AQUIFER DATA

Saturated Thickness: 54.65 ft

Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ MW-70M	663648.7685	1437468.043

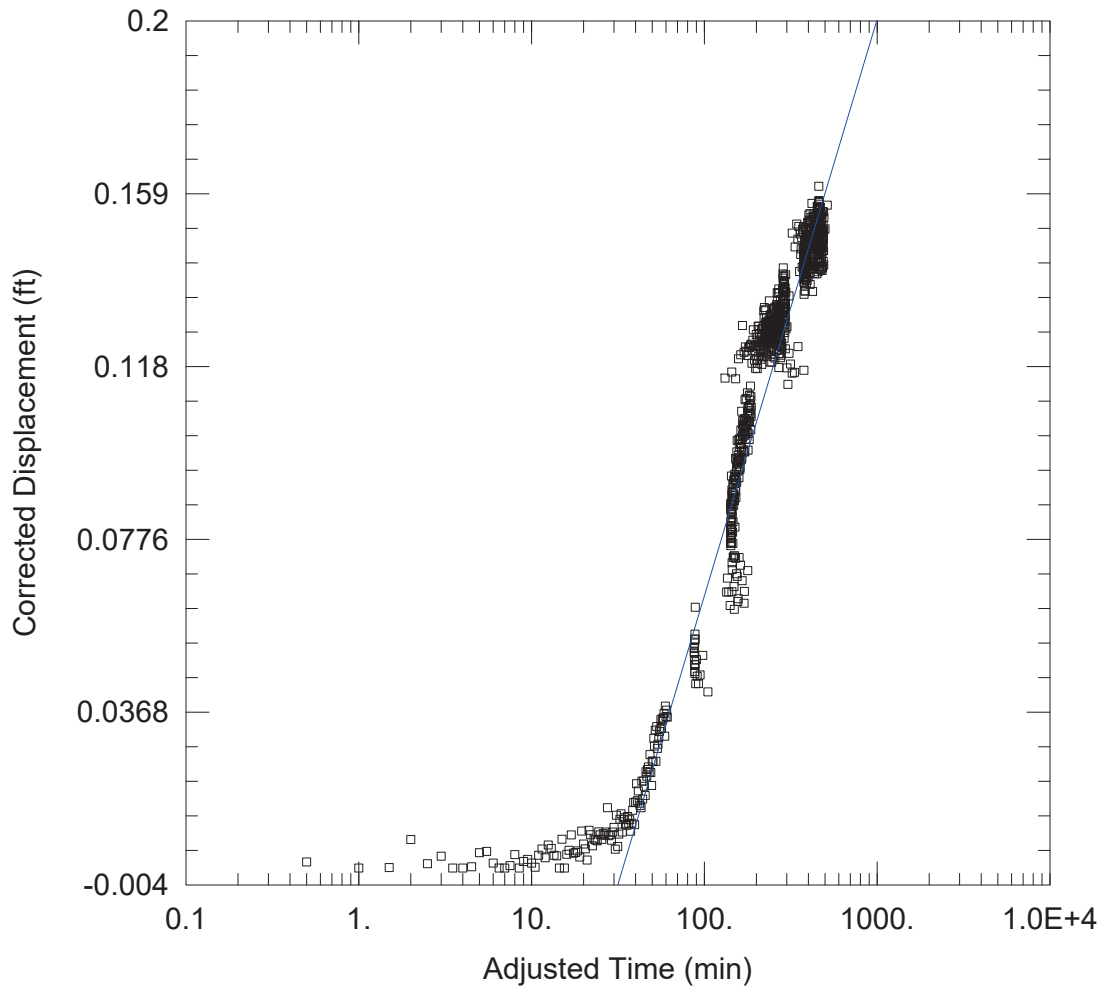
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 277.3 ft²/day

S = 0.01966



M-52A CRT

Data Set: X:\...\TDX-5_CJ_UF.aqt
 Date: 08/29/23

Time: 08:45:30

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

AQUIFER DATA

Saturated Thickness: 54.65 ft

Anisotropy Ratio (Kz/Kr): 0.1023

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□TDX-5	663616.1225	1437435.836

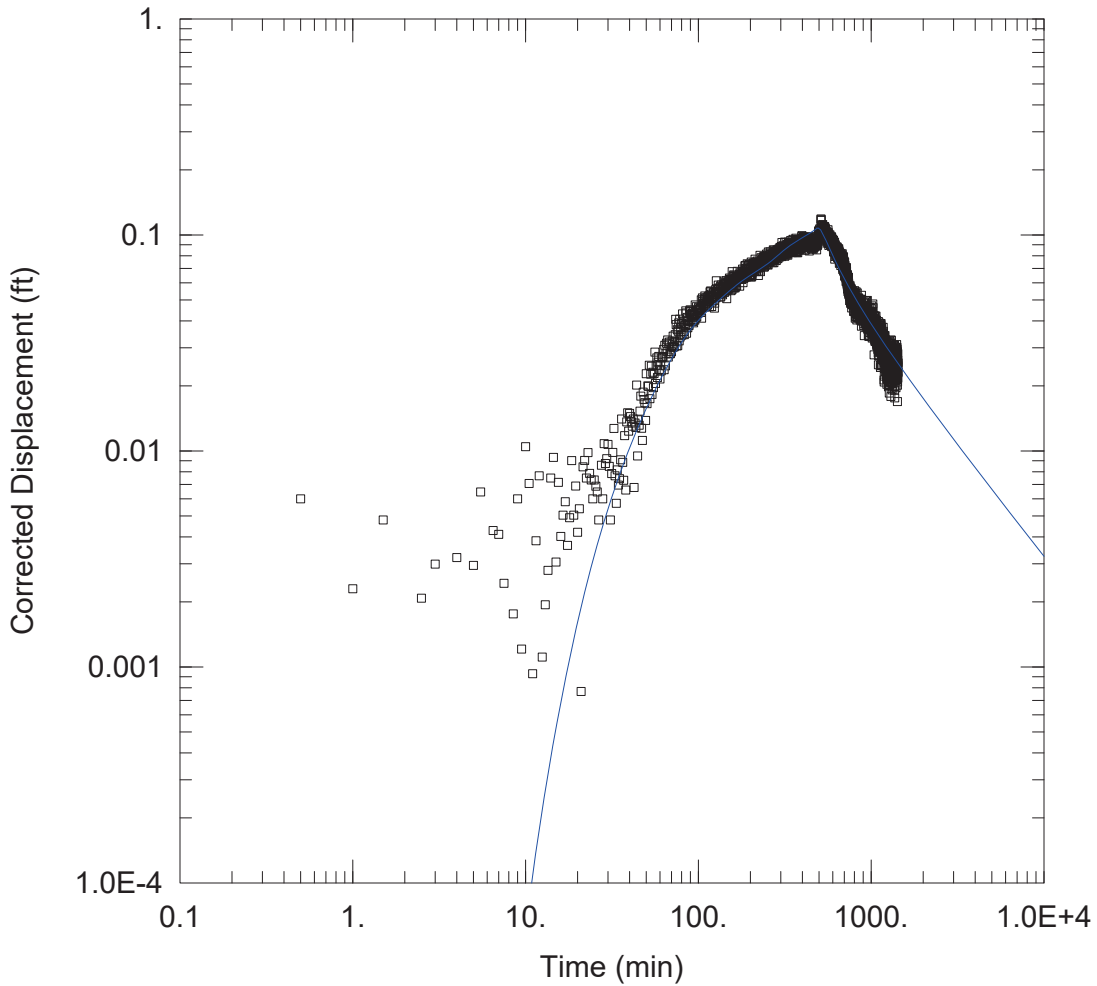
SOLUTION

Aquifer Model: Unconfined

Solution Method: Cooper-Jacob

T = 196.9 ft²/day

S = 0.007211



M-52A CRT

Data Set: X:\...\MW-70M_T_UF.aqt
 Date: 08/29/23

Time: 08:47:38

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ MW-70M	663648.7685	1437468.043

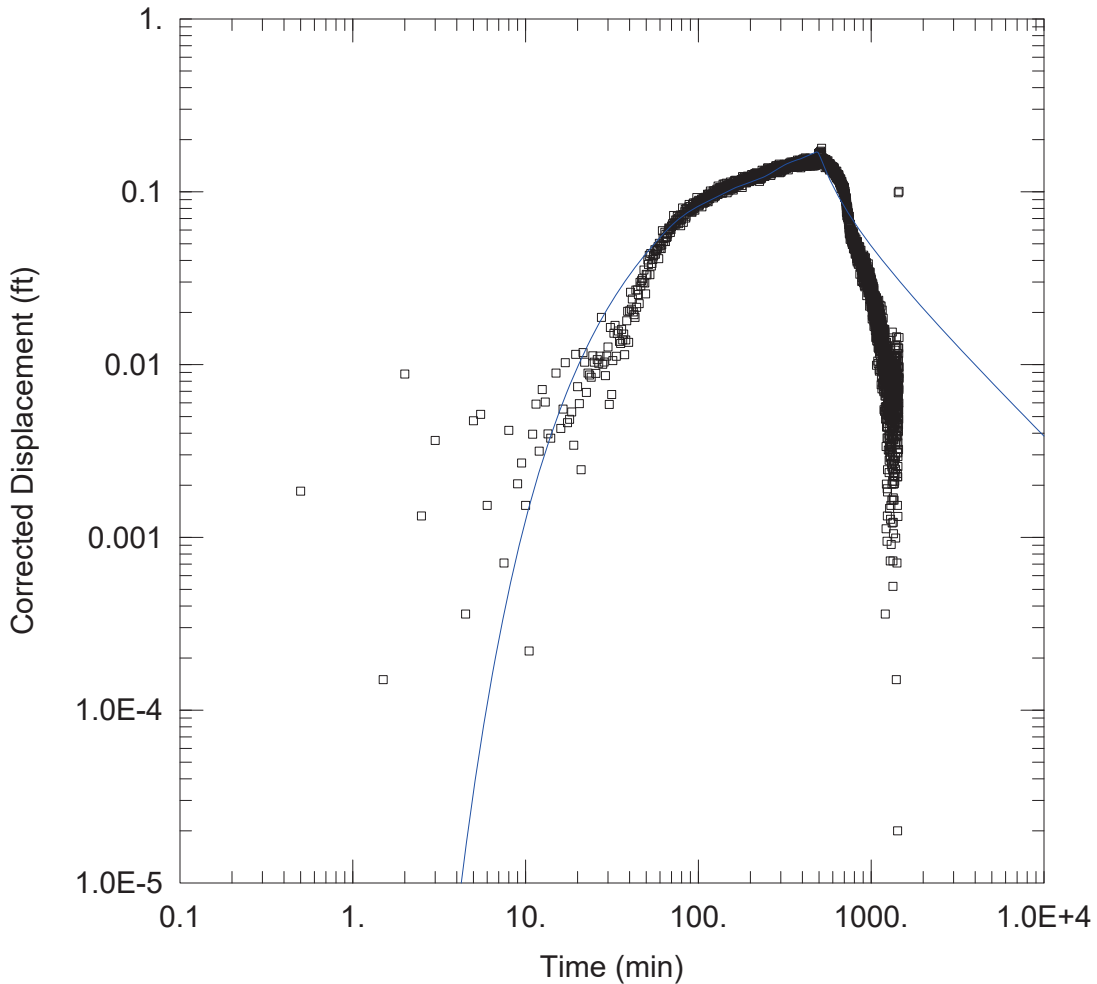
SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 180.8 ft²/day
 Kz/Kr = 0.1

S = 0.02667
 b = 54.65 ft



M-52A CRT

Data Set: X:\...\TDX-5_T_UF.aqt
 Date: 08/29/23

Time: 08:48:18

PROJECT INFORMATION

Company: WSP
 Client: APS
 Project: 1420222029
 Location: Cholla
 Test Well: M-52A
 Test Date: 6/21/2023

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
M-52A	663617.5011	1437473.734	□ TDX-5	663616.1225	1437435.836

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 153.1 ft²/day

S = 0.008946

Kz/Kr = 0.1023

b = 54.65 ft

APPENDIX



SEMIANNUAL REPORT DOCUMENTING PROGRESS IN REMEDY SELECTION FOR THE FLY ASH POND AND BOTTOM ASH POND



2023-07-15

Arizona Public Service Company
400 N. 5th Street
Phoenix, Arizona 85004

**Subject: Semiannual Report Documenting Progress In Remedy Selection
Fly Ash Pond And Bottom Ash Pond
Cholla Power Plant – Navajo County, Arizona**

In accordance with 40 Code of Federal Regulations (CFR) Section (§) 257.97(a) of the Coal Combustion Residuals (CCR) Rule, this Semiannual Remedy Selection Progress Report (Semiannual Report) has been prepared on behalf of Arizona Public Service Company (APS) to document progress in selection of remedies for CCR units which have been identified as potentially impacting groundwater at the APS Cholla Power Plant, located in Navajo County, Arizona (the Site). The identified applicable site CCR units include the Fly Ash Pond (FAP) and the Bottom Ash Pond (BAP). Semiannual progress reporting to support remedy selection began on July 15, 2019. The most recent update was provided in the *Annual Groundwater Monitoring and Corrective Action Report (GMCAR) for 2022*, dated January 31, 2023. This Semiannual Report serves as the ninth update on remedy selection progress at the Site and documents activities completed to date in 2023.

SUMMARY OF ACTIVITIES COMPLETED IN 2023

Activities completed by APS in the first half of 2023 in support of remedy selection for the FAP and the BAP include the following:

- *Groundwater Monitoring at the FAP and BAP.* Groundwater monitoring, per requirements CFR § 257.95, has continued at both the FAP and BAP at a minimum on a semiannual basis.
- *Integration of Extraction Wells into Seepage Collection System Operations at the FAP.* Construction of improvements to the Geronimo and Hunt Seepage Collection Systems was completed and start up and operation began in January 2023. Completed activities associated with incorporating the extraction wells into the system and ongoing performance monitoring will be documented in the 2023 GMCAR.
- *Integration of Extraction Wells and Improvements to Intercept Trenches into Seepage Collection System Operations at the BAP.* Design of improvements to make the Seepage Collection Systems operate more effectively was initiated in early 2023.
- *Operation of Existing FAP and BAP Seepage Collection Systems.* As part of interim response measures at both the FAP and BAP, existing seepage collection systems have continued to operate during the first half of 2023. Annual contaminant mass removal estimates from both seepage collection systems as they stand to date were calculated for 2022 and will continue to be calculated and included in the 2023 GMCAR.

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- *Numerical Groundwater Model Update.* The numerical groundwater model for the FAP and BAP was updated to assess potential water quality impacts and support selection of a groundwater remedy for the CCR units. Hydrogeologic and water quality data obtained to date were used to update and calibrate the model. The modeling procedures and results will be documented in a summary report in accordance with industry standards and guidelines and included as an appendix to the Remedy Selection Report.
- *Evaluation of FAP Dewatering Strategies.* A pilot-test field program to evaluate the extent and removal of drainable pore water upgradient of the FAP dam was conducted in May and June 2023. Multiple wells were installed through the ash to the alluvium underlying the FAP and testing was performed. Data are currently being evaluated. A summary of results will be presented in the 2023 GMCAR.
- *Remedy Selection Reports for the FAP and the BAP.* Preparation of a remedy selection report continued through the beginning of 2023 to document how the selected remedy will meet the requirements of 40 CFR §257.97(b).

FUTURE PLANNED ACTIVITIES

APS plans to perform the following activities in support of remedy selection during the second half of 2023 (and in upcoming years, as noted):

- *Integration of Extraction Wells and improvements to Intercept Trenches into Seepage Collection System Operations at the BAP.* The installation of extraction wells and improvements to seepage intercept trenches at the BAP will likely begin in late 2023. Completed activities associated with incorporating the extraction wells and intercept trenches into the system will be documented in the 2023 GMCAR.
- *Continued Operations of Existing FAP and BAP Seepage Collection Systems.* The seepage systems at both the FAP and BAP will continue to serve as part of interim response measures at both CCR units until remedial activities begin. The updated seepage collection systems at both units will also likely be a part of final selected remedies.
- *BAP In-Situ Remedy Pilot Study.* Based on recommendations put forth in the bench-scale evaluation, a pilot-scale study of in-situ strategies for cobalt remediation may be conducted at the BAP. The pilot-scale study would implement testing of groundwater oxidation amendments at near select wells. Implementation and assessment of the pilot-scale study would likely be part of initial remedial activities for adaptive remedy options.
- *Remedy Selection Reports for the FAP and BAP.* Preparation of a remedy selection report documenting how the selected remedy will meet the requirements of 40 CFR §257.97(b) will continue during the second half of 2023.
- *Initiation of Remedial Activities.* Upon completion of the FAP and BAP Remedy Selection Reports, within 90 days APS will initiate and begin documentation of remedial activities for each CCR unit pursuant to 40 CFR §257.98(a).

Respectfully submitted,

WSP USA Environment & Infrastructure Inc.

Samantha O'Shea
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Reviewed by:

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WSP ref.: 1420232012

APPENDIX

J

ADWR WELLS 55 REGISTRY
DATABASE REVIEWS FOR 2023

Registry No. (Es-)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Application Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Log Received	Notes from WSP
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0			10/29/1980	0	0	NO	
086142		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/3/1980		9/24/1997	25	0	NO	
086146		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14	1/3/1980		9/24/1997	25	0	NO	
086152		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14	1/3/1980		9/24/1997	0	NO	NO	
086184		A1802003CAC	ESBERT A	NON-EXEMPT	165	75	6	1/3/1980		9/24/1997	65	0	NO	
218669		A18019016BCC	ANTONIO & CYNTHIA JAQUEZ	MONITOR						12/7/2016				
231719		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER										App date 10/18/2020
231800		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER										App date 10/18/2020, marked as denied
231713		A18019016ABC	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2	2/22/2021		1/27/2021			X	ADWR records sent to APS in 2021 Q4
500712		A17020007CDB	NEWMAN AND JESSICA JOHN	EXEMPT	215	80	5	9/18/1981		0	0	NO	X	
500726		A17020007CBA	JOHN HARDY	EXEMPT	195	80	5	8/21/1981		8/18/1981	75	NO	X	
501984		A18020013DAC	SCHADE J	EXEMPT	200	201	6	10/14/1982		9/21/1982	90	0	NO	
504544	345312110122501	A17020010ACX	HOLBROOK, TOWN OF	NON-EXEMPT	105	87	12	7/10/1980		9/14/1982	13	1450	YES	
506369		A18019023AAC	AZ PUBLIC SERVICE	EXEMPT	39	0	0	10/26/1983		9/21/1983	0	NO	X	
510154		A17020010CBB	BISSONNETTE & SMITH	EXEMPT	98	40	6	6/5/1985		1/28/1985	33	15	NO	X
519790		A17020070ABD	NIEGGAN P PUBRPT	EXEMPT	150	32	6	7/10/1988		3/17/1987	35	20	NO	X
521468		A170190128BA	MAXWELL, MYRON	EXEMPT	200	67	6	5/12/1989		6/14/1988	75	12	NO	X
527040		A170190120DD	MYERS, JOHN JR.W	EXEMPT	0	0	0			1/31/1990	0	0	NO	
527045		A170190120DD	MYERS, JOHN JR.W	EXEMPT	0	0	0			1/31/1990	0	0	NO	
527046		A170190120DD	MYERS, JOHN JR.W	EXEMPT	0	0	0			1/31/1990	0	0	NO	
527229		A18020026BCA	HOLBROOK, TOWN OF	NON-EXEMPT	0	0	0			3/2/1990	0	0	NO	
529605		A18019016BCB	RADIAN CORP	MONITOR	15	10	2	5/29/1991		5/20/1991	13	0	NO	X
529607		A18019016BCA	RADIAN CORP	MONITOR	15	10	2	5/28/1991		5/20/1991	13	0	NO	X
538819		A18019013CDD	AZ PUBLIC SERVICE	MONITOR	0	0	0			11/26/1991	0	NO	NO	
539111		A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	NO	NO	
539112		A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	NO	NO	
539117		A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	NO	NO	
539864		A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	40	40	5	7/24/1993		7/12/1993	25	0	NO	X
540080		A18019010CCC	RADIAN CORP	MONITOR	20	20	2	9/15/1993		8/17/1993	14	0	NO	X
540668		A18019023CDD	AZ PUBLIC SERVICE	MONITOR	45	45	4	9/23/1993		9/15/1993	23	0	NO	X
540672		A180190230DB	ARIZONA PUBLIC SERVICE	MONITOR	45	45	4	9/24/1993		9/15/1993	18	0	NO	X
548423		A17020010CCC	FERGUSON, MICHAEL	NON-EXEMPT	205	20	6	11/3/1996		6/17/1996	57	0	NO	X
562380		A18019016BCC	JACQUEZ JR, ANTONIO	MONITOR	0	0	0			4/24/1997	0	0	NO	
575882		A17020006BAA	BOYD L WESTOVER	EXEMPT						3/4/1999				
578287		A18019016CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999				
578289		A18019016CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999				
578301		A18019016CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999				
578302		A18019016CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999				
579541		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2	3/28/2000		2/8/2000	27	0	NO	X
583834		A17020007BAA	KENNETH H EDINGER	EXEMPT	160	60	6	12/18/2000		10/11/2000	49	0	NO	X
582726		A18019016CCC	JACKRABBIT TRAINING POST	MONITOR	25					5/28/2002				X
589261		A18019013CDD	JOSEPH CITY SANITARY DISTRICT	MONITOR	30	30	6	8/5/2003		7/1/2003	6	NO	X	
600208	34530210123801	A17020010CAC	SHUMWAY, DREW	NON-EXEMPT	200	200	8	10/7/1981		10/7/1981	200	600	NO	N
600243		A17020010DAC	SHUMWAY, DREW	NON-EXEMPT	150	10	8	1/1/1950		10/7/1981	3	200	NO	N
600251		A17020010FAB	SHUMWAY, DREW	NON-EXEMPT	150	20	8	2/21/1974		10/7/1981	100	300	YES	N
600255	34531410121401	A17020010FAB	SHUMWAY, DREW	NON-EXEMPT	150	150	10	1/1/1981		10/7/1981	3	100	NO	N
600774		A17018001DAA	AZTEC LAND & CATTLE	EXEMPT	60	5	6	5/15/1946		9/28/1981	16	5	NO	N
604008		A1802003000	DISPAIN R	NON-EXEMPT	235	100	6	8/1/1964		9/21/1981	100	150	NO	N
604926		A17020010DD	BIGMAN YOUNG UNIV.	NON-EXEMPT	0	0	0			9/5/1981	0	0	NO	
605141		A17020010BCC	MC LAWS W	NON-EXEMPT	100	221	5	1/1/1965		3/22/1982	100	100	NO	
605469	345447110132801	A18020033CDA	WILLIAM WIEGAND	NON-EXEMPT	208	208	6	12/31/1946		4/7/1982	165	120	NO	N
606498		A17020013CDD	ADAIR, E	NON-EXEMPT	125	20	6			4/26/1982	26	50	NO	
606724		A17020008BDD	J S FARMS, INC	EXEMPT	0	0	0			5/3/1982	0	35	NO	
607766		A170190120DD	MYERS, JOHN JR.W	NON-EXEMPT	460	10	12	1/1/1960		5/7/1982	42	525	NO	
607768		A17020007BDC	JOHN W. MYERS, JR.	NON-EXEMPT	150	51	6	11/1/1976		5/7/1982	97	100	NO	
609540		A18019016CCC	HEAL, T A	NON-EXEMPT	200	8	0			5/25/1982	19	500	NO	
613089	345434110171201	A18019036CCC	AZ PUBLIC SERVICE	NON-EXEMPT	350	55	10	12/1/1961		6/10/1982	27	950	YES	
613128		A18019026BAD	AZ PUBLIC SERVICE	EXEMPT	10	0	0			6/10/1982	1	0	NO	
613153		A18019026CAB	AZ PUBLIC SERVICE	EXEMPT	6	80	6	9/4/1973		6/10/1982	92	40	NO	
613155		A170190128BA	AZ PUBLIC SERVICE	EXEMPT	0	0	0			6/10/1982	0	0	NO	
613176		A18019014DAC	AZ PUBLIC SERVICE	EXEMPT	80	53	1	8/21/1979		6/10/1982	77	0	NO	
613181		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	57	25	1	3/8/1979		6/10/1982	80	0	NO	
613182		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	53	27	1	2/26/1979		6/10/1982	83	0	NO	
613192		A18019023ABA	AZ PUBLIC SERVICE	EXEMPT	50	27	1	2/27/1979		6/10/1982	12	0	NO	
613199		A18019023ADA	AZ PUBLIC SERVICE	EXEMPT	117	32	1			6/10/1982	97	0	NO	
613206		A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	38	1	1	3/27/1979		6/10/1982	61	0	NO	
613208		A18020030CDA	AZ PUBLIC SERVICE	EXEMPT	60	38	1	3/27/1979		6/10/1982	0	0	NO	
613212		A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	51	29	1	4/5/1979		6/10/1982	18	0	NO	
613218		A18020030BCC	AZ PUBLIC SERVICE	EXEMPT	100	79	1	5/12/1979		6/10/1982	100	59	NO	
613221		A18019023ADD	AZ PUBLIC SERVICE	EXEMPT	50	28	1	4/4/1979		6/10/1982	21	0	NO	
613406	345256110192401	A17018009DDA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	319	24	12/20/1977		6/9/1982	126	1250	YES	
613410	345232110173001	A17019013ACA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	530	319	24	7/1/1977		6/9/1982	80	163	NO	
613425		A1702009ADD	AZTEC LAND & CATTLE CO LTD	EXEMPT	112	100	6	7/21/1978		6/9/1982	10	0	NO	
620359		A17020010CBA	FERGUSON, E J	NON-EXEMPT	100	15	10	1/3/1968		6/14/1982	100	400	NO	
627202		A170190120DD	ALVIN H & DANSEL MINTER	NON-EXEMPT	250	10	7	12/12/1976		2/9/1982	74	100	NO	
638564		A17020070DD	EDWIN & BRENDA BURROUGHS	NON-EXEMPT	250	35	6			8/21/1982	65	65	YES	
631391		A170200078BB	PAGE, FRANK L	EXEMPT	175	48	6	1/12/1980		3/23/1982	155	25	NO	
634314		A17020010ACD	TERMAIN D	NON-EXEMPT	100	10	8	4/1/1975		6/21/1982	8	100	NO	
635524	345310110124801	A17020010CBA	PAULSELL, J L	EXEMPT	65	45	6	1/1/1964		6/20/1982	19	0	NO	
650787		A17020010CDD	COOLEY, S R	EXEMPT	100	6	3	1/1/1971		6/17/1982	50	0	NO	
801482		A17020009AAD	JOSEPH CITY BRIG CO	NON-EXEMPT	150	10	12	1/1/1938		5/17/1984	0	200	NO	
903874		A17020030AAD	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	30	30	2	12/20/2005		12/20/2005	13	NO	X	
904036		A18019016DCA	PARFA INVESTMENTS, INC	MONITOR						6/16/2006				
906363		A18019036DDC	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT						2/1/2007			YES	
906365		A18019036HBA	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	470	17	8/11/2007		7/1/2007	34	YES	X	
909091		A18019016CDB	THRIFTWAY MARKETING	MONITOR	32	30	2	5/29/2008		5/23/2008	20	NO	X	
909605		A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	30	2	5/29/2008		8/20/2008	30	NO	X	
909987		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	290	280	5	11/18/2008		10/30/2008	NO	NO	X	
909988		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	380	380	5	11/18/2008		10/30/2008	140	NO	X	
910007		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	60	10	10	11/21/2008		11/5/2008	NO	NO	X	
910008		A18019026DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	65	5	5	11/22/2008		11/6/2008	30	NO	X	
910249		A18019013CDA	LOVE'S COUNTRY STORES	MONITOR	22					3/9/2009				X
910278		A18019016CDB	ROSS ROGERS	MONITOR	32	32	2	11/5/2009		1/15/2009	NO	NO	X	
910296		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009		1/15/2009	18	NO	X	
910319		A18019016CDB	ROSS ROGERS	MONITOR	32	32	2	1/29/2009		1/16/2009	18	NO	X	
910324		A17020006BAD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	600	240	21	4/10/2009		1/18/2009	29	NO	X	
910624		A1801902300D	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER						4/8/2009				NO
912020		A170												

205719	A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	3/9/2005	10/29/2004	34	NO	X		
207696	A1702007AAA	JACK R PCKETT JR	EXEMPT	175	60	6	5/29/2005	5/4/2005	67	NO	X		
215529	A1801901DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/24/2007	3/20/2007	19	NO	X		
215540	A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				6/12/2009	4/26/2007		NO	X		
232663	A17019038BB	EL PASO NATURAL GAS COMPANY, L.L.C. A KIM	OTHER	20	490	12	9/2/2000	7/25/2020		NO	X		
232884	A1702001DAA	ARIZONA PUBLIC SERVICE COMPANY	EXEMPT	80	7	7	12/16/2020	10/20/2020	82	NO	X		
482995	A18020030BD	ARIZONA PUBLIC SERVICE	MONITOR	56	55	1		4/29/2021		NO	X		
502455	A18019016DC	RANDALL D	NON-EXEMPT	0	0	0		3/25/1982	0	NO	X		
504566	A1801902300	AZ PUBLIC SERVICE	OTHER	40	40	6		5/17/1989	0	NO	X		
533811	A18019013CCA	AZ PUBLIC SERVICE	MONITOR	259	258	5	1/22/1992	11/26/1991	114	NO	X		
538816	A18019023AAA	AZ PUBLIC SERVICE	MONITOR	240	238	5	12/19/1991	11/26/1991	80	NO	X		
539095	A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	NO	X		
539099	A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	NO	X		
539114	A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	NO	X		
539116	A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	NO	X		
539225	A1702007DAA	GARY AND MELISSA HUNT	EXEMPT	174	64	5	6/18/1993	4/18/1993	74	NO	X		
539860	A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	40	5	7/21/1993	7/12/1993	25	NO	X		
541711	345531110124101	DALE MCKINNON	NON-EXEMPT	460	320	8	3/25/1994	12/6/1993	207	NO	X		
547039	A18019023CD	APS	MONITOR	0	0	0		12/30/1994	0	NO	X		
552907	A18020030CB	AZ PUBLIC SERVICE	EXEMPT	49	49	5	12/21/1995	11/30/1995	2	NO	X		
553288	A18020030CB	ARIZONA PUBLIC SERVICE	MONITOR	50	50	4		11/30/1995	0	NO	X		
553270	A1801903AAB	AZ PUBLIC SERVICE	MONITOR	0	0	0		11/30/1995	0	NO	X		
559281	A18019016CC	JAQUEZ JR, ANTONIO	MONITOR	0	0	0		4/22/1997	0	NO	X		
562333	A18019016CC	ANTONIO JAQUEZ JR	MONITOR	25	5	4	4/17/1998	4/22/1997	15	NO	X		
578289	A18019016CC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999		NO	X		
588012	A18019016CC	HARTLEY TURLEY	MONITOR	45	45	4	3/8/2002	7/19/2001	36	NO	X		
588019	A18019016CC	HARTLEY TURLEY	MONITOR					7/19/2001		NO	X		
588020	A18019016CC	HARTLEY TURLEY	MONITOR					7/19/2001		NO	X		
590313	A1702001CBB	ANTHONY AND CARLA HEWETT	EXEMPT	200	60	1	6/7/2002	12/24/2001	71	NO	X		
590553	A1702001CBB	DIANE RAY CHARLEY	EXEMPT	220	55	5	2/28/2002	5/14/2002	84	NO	X		
590554	A17020007CB	ROBERT MCCLAWS	EXEMPT	215	50	5	3/8/2002	1/4/2002	86	NO	X		
592849	A18019016CC	HARTLEY TURLEY	MONITOR	10	10	4		11/18/2002	20	NO	X		
602445	A1702005CD	SHUMWAY, DREW	NON-EXEMPT	225	10	10	1/13/1940	10/7/1981	10	NO	X		
600250	345247110110401	SHUMWAY, DREW	NON-EXEMPT	410	65	12	1/20/1973	10/7/1981	40	NO	X		
600254	A17020038CD	SHUMWAY, DREW	NON-EXEMPT	200	20	8	1/13/1940	10/7/1981	3	NO	X		
602136	A1702001CBB	SAMPSON D	NON-EXEMPT	8	48	8	2/12/1980	2/4/1982	21	NO	X		
602963	A17020008DAB	J S FARMS, INC A COLORADO CORP	NON-EXEMPT	225	35	10	1/13/1940	2/17/1982	28	NO	X		
603796	A18019016CAA	CORNELIS E. & KRISTI J. JANSEN	NON-EXEMPT	450	0	0	1/13/1946	9/10/1981	75	YES			
604689	345308110125301	DIAMOND DONALD A	NON-EXEMPT	150	12	12	1/13/1957	3/11/1982	15	100%			
604918	A1702001CBB	MARRELL & CYNTHIA STEEN	NON-EXEMPT	200	6	6	7/13/1979	3/8/1982	80	NO	X		
606801	345838110244901	THE CAROL A SHAFR REVOCABLE TRUST	EXEMPT	50	6	6	1/13/1910	4/16/1982	20	NO	X		
609539	A18019016CCD	NEAL T R	NON-EXEMPT	200	0	3	1/13/1936	5/25/1982	19	NO	X		
613907	345316110170910	ARIZONA PUBLIC SERVICE	NON-EXEMPT	576	11	7	12/16/2020	6/10/1982	576	NO	X		
613909	A17020006DD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	127	25	0	12/16/2020	6/10/1982	58	NO	X		
613133	A18019026DA	AZ PUBLIC SERVICE	EXEMPT	18	0	0		6/10/1982	17	NO	X		
613134	A18019026DA	AZ PUBLIC SERVICE	EXEMPT	45	0	0		6/10/1982	17	NO	X		
613140	A18019026DA	AZ PUBLIC SERVICE	EXEMPT	45	0	0		6/10/1982	18	NO	X		
613144	A18019026DD	AZ PUBLIC SERVICE	EXEMPT	374	0	12		6/10/1982	13	NO	X		
613154	A18019026DD	AZ PUBLIC SERVICE	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	NO	X		
613159	345802110243001	AZ PUBLIC SERVICE	EXEMPT	100			1/17/1978	6/10/1982	19	NO	X		
613168	A18019023AAB	AZ PUBLIC SERVICE	EXEMPT	33	2	2	10/31/1978	6/10/1982	1	NO	X		
613178	A18019016CCD	AZ PUBLIC SERVICE	EXEMPT	67	38	1	3/11/1979	6/10/1982	39	NO	X		
613187	A18019013CC	AZ PUBLIC SERVICE	EXEMPT	50	1	1	2/24/1979	6/10/1982	0	NO	X		
613189	A18019013CC	AZ PUBLIC SERVICE	EXEMPT	55	31	1	2/22/1979	6/10/1982	7	NO	X		
613203	A18019023AAC	AZ PUBLIC SERVICE	EXEMPT	50	28	1	4/7/1979	6/10/1982	39	NO	X		
613209	A18020030CB	AZ PUBLIC SERVICE	EXEMPT	51	31	1	4/25/1979	6/10/1982	0	NO	X		
613223	A18019025ADA	AZ PUBLIC SERVICE	EXEMPT	80	58	1	5/8/1979	6/10/1982	57	NO	X		
613402	345344110165101	AZ TEE LAND & CATTLE CO LTD	NON-EXEMPT	470	279	24	1/13/1977	6/9/1982	1000	YES			
613405	345324110200001	AZ TEE LAND & CATTLE CO LTD	NON-EXEMPT	415	249	24	12/19/1978	6/9/1982	92	125%			
613409	34542411021301	AZ TEE LAND & CATTLE CO LTD	NON-EXEMPT	540	363	24	4/10/1978	6/9/1982	179	500%			
614308	A18020030BDA	AZ STATE LAND DEPT	EXEMPT	100	0	9	1/13/1958	6/14/1982	0	NO	X		
614948	A1702001CDA	JORDAN AUTOBEE	NON-EXEMPT	200	40	6	1/13/1940	6/14/1982	60	NO	X		
627252	A1702006AA	JOSEPH CITY WATER	NON-EXEMPT	80	8	8	2/27/1980	6/10/1982	0	NO	X		
628497	345726110200001	JOSEPH CITY WATER	NON-EXEMPT	500	300	10	1/13/1942	5/13/1982	70	300%			
633413	A1702001DOD	TERMAIN D	NON-EXEMPT	103	18	8	3/13/1968	6/21/1982	13	110%			
641097	A1702007CCC	KILEY AND ABBIE REIDHEAD	EXEMPT	160	10	6	2/13/1973	4/15/1982	130	NO	X		
650086	A18019023ABC	LANE J E	NON-EXEMPT	750	750	10		7/14/1982	200	YES			
801484	A1702009AAD	JOSEPH CITY BRIG CO	NON-EXEMPT	150	10	12	1/13/1938	5/17/1984	0	NO	X		
806203	345304110113601	SEVENTH DAY ADVENT	NON-EXEMPT	220	40	12	12/31/1973	11/25/1991	37	150%			
808706	A1702001CBB	NEIL O JEANNE E HUNSAKER	EXEMPT	100	30	6	3/13/1972	1/17/2006	6	NO	X		
809311	A17019012ADD	JASON & CRYSTAL CASTILLO	EXEMPT					1/26/2009		NO	X		
810061	A1702001CDD	RICK & TWILA TAYLOR	EXEMPT	200	200	6	1/13/1963	4/8/2019	70	25	NO	X	
905014	A18019016DCA	SPARTA INVESTMENTS, INC	MONITOR					6/16/2006		NO	X		
905038	A18019016DCA	SPARTA INVESTMENTS, INC	MONITOR					6/16/2006		NO	X		
907561	A18019026CC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	8	9/7/2007	8/7/2007	35	NO	X		
907562	A17019023AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	351	250	5	8/23/2007	8/7/2007	5	NO	X		
907563	A17019023AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	502	500	9	8/23/2007	8/7/2007	67	NO	X		
907660	A17019028BB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	490	21	3/7/2008	8/23/2007	66	NO	X		
907680	A18019016CDB	SPARTA INVESTMENTS	MONITOR	31	30	8	8/29/2007	8/27/2007	25	NO	X		
909097	A18019016CDB	THRIFTWAY MARKETING	MONITOR	32	32	2	5/29/2008	5/23/2008	20	NO	X		
909100	A18019016CDB	THRIFTWAY MARKETING	MONITOR	32	32	2	5/29/2008	5/23/2008	20	NO	X		
909102	A18019016CDB	THRIFTWAY MARKETING	MONITOR					5/23/2008		NO	X		
909105	A18019016CDB	THRIFTWAY MARKETING	OTHER	18	18	2	5/31/2008	5/23/2008	0	NO	X		
909801	A18019023CC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	535	530	5	10/30/2008	9/25/2008	30	NO	X		
910248	A18019013CDA	LOVES COUNTRY STORES	MONITOR	20	20		1/14/2009	1/9/2009		NO	X		
910279	A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910283	A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910292	A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910321	A18019016CDB	ROSS ROGERS	MONITOR	32	32	5	1/29/2009	1/16/2009	18	NO	X		
911103	A17020030DD	CITY OF HOUBROOK	OTHER					4/13/2009		NO	X		
911983	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012		NO	X		
931710	A1801902300	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40			12/13/2014	1/14/2015	30	NO	X		
931960	A18019023CB	ARIZONA PUBLIC SERVICE CO	MONITOR	100	85	5	10/6/2015	9/14/2015	41	NO	X		
931059	A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	60	60	2	11/16/2017	11/8/2017	36	NO	X		
932346	A18019026BAA	ARIZONA PUBLIC SERVICE	MONITOR	50			9/18/2019	9/9/2019		NO	X		
932927	A18020030CC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	3/29/2020	3/14/2020	40	NO	X		
936097	A18019023AAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	55	55	6	5/5/2021	4/22/2021	2	NO	X		
936103	A18019023ADC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	26	4	5/1/2021	4/22/2021	2	NO	X		
936106	A180190230AB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	177	165	4	5/18/2021	4/22/2021	4	NO	X		
936889	A18019013DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC	MONITOR	35	34	2	6/15/2021	6/9/2021	24	NO	X	ADWR records sent to APS in 2021 Q3	
086141	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	88	14	25	1/13/1980	9/24/1997	25	NO	X		
086143	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/13/1980	9/24/1997	25	NO	X		
086147	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	85	85	14	1/13/1980	9/24/1997	25	NO	X		
215328	A1801901DAAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/24/2007	3/30/2007	19	NO	X		
221379	A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42	NO	X		
232174	A18019016CDB	THRIFTWAY MARKETING CORPORATION	MONITOR	38	38	2	2/24/2021	1/27/2021	26	NO	X	ADWR records sent	

539108		A1802003CDB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO			
539118		A1802003CDB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO			
539961		A1801013CCD	AZ PUBLIC SERVICE	EXEMPT	40	40	5		7/23/1993	7/23/1993	25	NO		X	
547253		A1802003000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	37	0	0		6/7/1995	6/7/1995	0	NO	X		
560489		A1802003CCC	AZ PUBLIC SERVICE	MONITOR	20	0	4		2/11/1997	11/26/1996	29	NO	X		
568890		A1802003CDB	AZ PUBLIC SERVICE	EXEMPT	160	81	6		7/20/1998	6/3/1998	68	NO	X		
578122		A180200078AC	JOHNNY E PENROD	EXEMPT								NO			
578285		A18018010CCC	ANTONIO JACQUEZ JR	MONITOR								NO			
578291		A18018010CCC	ANTONIO JACQUEZ JR	MONITOR								NO			
578298		A18018010CCC	ANTONIO JACQUEZ JR	MONITOR								NO			
579540		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	40	30	2		3/23/2000	2/8/2000	42	NO	X		
579542		A18020030CDB	ARIZONA PUBLIC SERVICE	EXEMPT	62	52	2		3/22/2000	2/8/2000	78	NO	X		
585000		A18020007CCD	JOHN OR EDMAN MYERS	EXEMPT	208	60	5		4/10/2001	1/2/2001	49	NO	X		
588014		A18018016CAC	HARTLEY TURLEY	MONITOR								NO			
594037		A18018010CCC	JACKRABBIT TRADING POST	MONITOR								NO			
595839		A18018016CAC	HARTLEY TURLEY	MONITOR	15	11	10			11/28/2000	30	NO	X		
595846		A18018016CAC	HARTLEY TURLEY	MONITOR	15	14	1			11/18/2000	20	NO	X		
600240		A17020011CAC	SHUMWAY DREW	NON-EXEMPT	400	60	12		1/1/1960	10/7/1981	500	NO	N		
600246	3453421102141201	A17020003CCC	SHUMWAY DREW	NON-EXEMPT	225	20	10		1/1/1965	10/7/1981	0	150	NO	N	
600249		A17020010B0C	SHUMWAY DREW	NON-EXEMPT	210	20	8		1/1/1960	10/7/1981	100	NO	N		
600373		A170190120BC	DAVID DESPAIN	NON-EXEMPT	290	70	8		4/3/1977	9/28/1981	80	100	NO	N	
600377	345324110123801	A17020010B0C	SHUMWAY DREW	NON-EXEMPT	75	5	12		1/1/1940	9/28/1981	18	500	NO	N	
602175		A17020010B0B	SIMPSON D	NON-EXEMPT	150	10	8		1/1/1950	3/24/1982	3	200	NO		
603865		A17020011ACC	PACIFIC UNION CONFERENCE OF SEVENTH-DAY	EXEMPT	150	150	8		6/1/1974	2/19/1982	30	0	NO		
605139		A17019012ACA	B & C United Energies	NON-EXEMPT	408	13	10		1/1/1977	3/22/1982	74	300	YES		
605779		A17020011000	DEWITT K	NON-EXEMPT	175	15	12		1/1/1970	3/21/1982	30	175	NO		
606720		A180200338AC	DESPAIN D E	NON-EXEMPT	139	139	10		1/1/1974	5/3/1982	90	100	YES		
613088		A18019026ACB	AZ PUBLIC SERVICE	NON-EXEMPT	595	695	30		1/1/1961	6/10/1982	0	1200	YES		
613094	345340110193001	A17019040ACC	AZ PUBLIC SERVICE	NON-EXEMPT	550	61	24		3/5/1978	6/10/1982	87	1000	YES		
613098		A18019026ACC	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	8			6/10/1982	0	100	YES		
613131		A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	45	0	0			6/10/1982	0	0	NO		
613137		A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	8	0	0			6/10/1982	1	0	NO		
613143		A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	1005	267	0		1/1/1977	6/10/1982	8	0	NO		
613146	345339110202401	A17019044CCC	AZ PUBLIC SERVICE	EXEMPT	0	0	0			6/10/1982	0	0	NO		
613158	345751110231101	A180180138AD	AZ PUBLIC SERVICE	EXEMPT	1005	290	16		4/8/1978	6/10/1982	35	0	NO		
613165		A18019026AAA	AZ PUBLIC SERVICE	EXEMPT	173	48	1		1/1/1978	6/10/1982	62	0	NO		
613172		A180190248BB	AZ PUBLIC SERVICE	EXEMPT	50	18	1		3/21/1979	6/10/1982	9	0	NO		
613180		A180190140CD	AZ PUBLIC SERVICE	EXEMPT	54	31	1		3/23/1979	6/10/1982	33	0	NO		
613204		A18019026ABM	AZ PUBLIC SERVICE	EXEMPT	50	28	1		4/8/1979	6/10/1982	0	0	NO		
613205		A18019026ACD	AZ PUBLIC SERVICE	EXEMPT	57	35	0		4/8/1979	6/10/1982	0	0	NO		
613215		A18020030CBA	AZ PUBLIC SERVICE	EXEMPT	116	88	1		5/7/1979	6/10/1982	77	0	NO		
613416		A17019099AAD	AZTEC LAND & CATTLE CO LTD	EXEMPT	780	44	10		1/1/1977	6/9/1982	100	0	NO		
613421		A18018027AAB	AZTEC LAND & CATTLE CO LTD	EXEMPT	57	10	10		1/1/1977	6/9/1982	50	0	NO		
613429	345608110250001	A18018027AAB	AZTEC LAND & CATTLE CO LTD	EXEMPT	190	10	11		6/28/1977	6/9/1982	0	0	NO	X	
619249		A17020010CBB	BRANDON & BRIGGETTE BRIMHALL	NON-EXEMPT	150	20	6		1/1/1978	6/14/1982	30	50	NO		Well ownership changed from Joel & Lucinda Sweeney to Brandon & Briggette Brimhall
620686		A17020007ABA	KEENE SR R J	NON-EXEMPT	12	12	12		3/5/1975	6/15/1982	48	3	YES		
627203		A17020007B0C	ZUFELT L MAYNARD	NON-EXEMPT	147	51	6		11/1/1976	2/9/1982	47	100	NO		
628495	345721102129001	A18019012C0B	JOSEPH CITY WATER	NON-EXEMPT	100	290	10		9/7/1972	5/13/1982	50	600	YES		
624272		A17020010ACC	MAURICE L JONES	EXEMPT	200	2	6		5/16/1978	5/1/1982	2	0	NO	X	
641851		A18020033CAC	PERKINS W D	EXEMPT	200	81	7		5/3/1979	4/27/1982	70	30	NO		
890908		A17020005000	JOHN & CAROLYN NATCHER	EXEMPT								NO			App dated 8/3/2006, late well registry
912208		A18018016CCD	ELDON LARSEN	NON-EXEMPT					1/1/1950	2/17/2021		NO			
901893		A18018016CCB	ADOTT, ATTN: J.J. LIU	MONITOR	30	30	2		3/23/2005	3/16/2005	20	NO	X		
905032		A180190160CD	SPARTA INVESTMENTS INC	MONITOR						6/16/2006		YES			
906362	34543511017001	A18020030CCC	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT						2/1/2007		YES			
906364		A18019035AAB	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT	481	470	20		7/15/2007	2/1/2007	30	YES	X		
907676		A18019016CDB	SPARTA INVESTMENTS	MONITOR	16	16	8		8/28/2007	8/27/2007	0	NO	X		
907678		A18019016CDB	SPARTA INVESTMENTS	MONITOR	31	30	8		8/29/2007	8/27/2007	25	NO	X		
909086		A18019016CDB	THRIFTWAY MARKETING	MONITOR	32	31	10		5/28/2008	5/23/2008	20	NO	X		
909096		A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2		5/31/2008	5/23/2008	20	NO	X		
909768		A170200078BA	GERALD BRIGGS	EXEMPT	160	160	6		9/19/2008	9/18/2008	66	NO	X		
909802		A17020007CBB	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	EXEMPT	410	5	10		9/17/2008	9/25/2008	64	NO	X		
910009		A18019033DDO	ARIZONA PUBLIC SERVICE CD	MONITOR	70	5	5		11/20/2008	11/6/2008	45	NO	X		
910297		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/15/2009	18	NO	X		
910307		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/15/2009	18	NO	X		
910308		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/15/2009	18	NO	X		
910312		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/16/2009	18	NO	X		
910313		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/16/2009	18	NO	X		
910315		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/16/2009	18	NO	X		
910317		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/16/2009	18	NO	X		
910717		A17020011000	CITY OF HOLBROOK	OTHER	45	32	8		5/18/2009	5/11/2009	20	NO	X		
915193		A17020007B0C	BRYANT PETERSEN	NON-EXEMPT	220	220	6		6/16/2013	3/28/2013	68	10	NO		
918645		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	13				9/19/2015	9/11/2015		NO	X		
918646		A18019012CAB	ARIZONA PUBLIC SERVICE	MONITOR	370	365	5		10/12/2015	9/11/2015		NO	X		
919789		A18019026AAB	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4		8/29/2016	8/11/2016	42	NO	X		
939791		A18019023DAB	ARIZONA PUBLIC SERVICE (APS)	MONITOR	118	4			8/19/2016	8/11/2016	42	NO	X		
922955		A18019033CCC	ARIZONA PUBLIC SERVICE	MONITOR	96	82	4		5/17/2019	5/10/2019	46	NO	X		
923582		A180190406BB	ARIZONA PUBLIC SERVICE	MONITOR	77	75	3		11/22/2019	11/6/2019	9	NO	X		
923588		A1801901400A	ARIZONA PUBLIC SERVICE	OTHER	62				11/12/2019		9	NO	X		
925217		A18020030CDB	ARIZONA PUBLIC SERVICE	OTHER	55	55	6		12/10/2020			NO	X		
925220		A18019023000	ARIZONA PUBLIC SERVICE	OTHER						1/12/2020		NO			
926100		A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	84	81	6		5/3/2021	4/22/2021	19	NO	X		
926102		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	29	25	6		5/16/2021	4/22/2021	10	NO	X		
927469		A180190130CA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR					12/9/2021	12/28/2021		NO	X		Drill Records in ADWR Database as of 01 2023
121839		A18019023CDB	KLEINFELDER, J	OTHER								NO			App date 3/7/2007, denied app for specialty well
231034		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL	MONITOR	30					8/26/2019		NO			
231036		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL	MONITOR						8/26/2019		NO			
231384		A180190160AC	THRIFTWAY MARKETING CORPORATION	OTHER								NO			App date 10/18/2020, Denied as of 12/23/2020
482994		A18020030B0B	ARIZONA PUBLIC SERVICE	MONITOR	76	76	1		4/29/2021			NO			
502100		A180190160DC	BARRETT W W	EXEMPT	280	245	5		9/22/1983	2/23/1982	35	NO	X		
504944		A170190120CA	JANK D	EXEMPT	200	70	7		6/20/1983	3/9/1983	57	0	NO	X	
506267		A180190120BD	AZ PUBLIC SERVICE	EXEMPT	5	84	5		10/14/1983	9/21/1983	91	0	NO	X	
509947		A170190128AC	BELSHIE M T	EXEMPT	166	166	6		12/26/1984	12/20/1984	28	NO	X		
511029		A17020007CBA	TRACY OR JANELLA PERKINS	EXEMPT	80	5	10		10/1/1981	5/2/1985	60	35	NO	X	
511169		A18019023000	HARCO CORP	OTHER	265	10			5/23/1985	4/17/1985	10	NO	X		
527041		A17019012DDO	MYERS, JOHN JR W	EXEMPT	0	0	0			1/31/1990	0	0	NO		
533820		A1													

600242		A17020010ACD	SHUMWAY, DREW.	NON-EXEMPT	150	10	8	1/1/1950	10/7/1981	3	200	NO		N				
600375	345445110192901	A18019033AA	AZTEC LAND CO. LLC.	EXEMPT	100	40	6	6/10/1946	9/29/1981	20	13	NO		N				
602960		A17020010AF	REWARD I F	EXEMPT	100	20	6	1/1/2000	2/17/1982	100	8	NO		X				
602962		A17020008ACA	J-S FARMS, INC. A COLORADO CORP	NON-EXEMPT	200	20	10	1/1/1940	2/17/1982	1	200	NO						
603167		A17020010CAB	MICHAEL & ERNESTINE KAFFER	NON-EXEMPT	150	20	8	1/1/1950	2/18/1982	30	190	NO						
604645		A17020007BBC	HOLBROOK, J.E.	NON-EXEMPT	400	12	1		4/26/1983	400	67	YES						
613125		A18019026BAD	AZ PUBLIC SERVICE.	EXEMPT	45	0	2		6/10/1983	24	0	NO						
613145		A18019026CB	AZ PUBLIC SERVICE.	EXEMPT	270	0	0	1/1/1959	6/10/1983	30	0	NO						
613150		A18019039BDB	AZ PUBLIC SERVICE.	EXEMPT	57	60	6	8/23/1973	6/10/1983	45	0	NO						
613171		A18019033AAA	AZ PUBLIC SERVICE.	EXEMPT	292	277	1		6/10/1983	74	0	NO						
613183		A18019013CCA	AZ PUBLIC SERVICE.	EXEMPT	40	1	3/8/1979		6/10/1983	0	NO							
613184		A18019013CCA	AZ PUBLIC SERVICE.	EXEMPT	50	28	1	3/7/1979	6/10/1983	32	0	NO						
613188		A18019013CCC	AZ PUBLIC SERVICE.	EXEMPT	55	21	5/1/1979		6/10/1983	21	0	NO						
613195		A18020030CDB	AZ PUBLIC SERVICE.	EXEMPT	77	57	1		6/10/1983	18	0	NO						
613197		A18020030CDB	AZ PUBLIC SERVICE.	EXEMPT	92	52	1		6/10/1983	20	0	NO						
613202		A18020030DBA	AZ PUBLIC SERVICE.	EXEMPT	50	38	1	4/7/1979	6/10/1983	0	31	NO						
613213		A18020030CBA	AZ PUBLIC SERVICE.	EXEMPT	120	88	1	5/19/1979	6/10/1983	55	0	NO						
613214		A18020030CBA	AZ PUBLIC SERVICE.	EXEMPT	120	88	2	5/16/1979	6/10/1983	96	0	NO						
613219		A18019039BDB	AZ PUBLIC SERVICE.	EXEMPT	103	81	1	4/18/1979	6/10/1983	80	0	NO						
613407	345415110210001	A17030059BDA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	480	279	24	1/1/1978	6/9/1983	64	850	YES						
614348		A18019035DDO	AZTEC LAND & CATTLE CO LTD	EXEMPT	160	120	11	12/31/1977	6/9/1983	65	0	NO		X				
627200		A17019012CDD	ALVIN H & DANSEL MINTER	NON-EXEMPT	460	10	12	1/1/1960	2/9/1982	92	525	YES						
629415		A17020010DD	DAVID & BEBBIE SHUMWAY	NON-EXEMPT	200	20	12	1/1/1970	6/25/1982	40	500	NO						
638809		A17020009BDB	HARKEY, JOHN	EXEMPT	0	0	9		6/14/1982	0	0	NO						
650048		A17020007DAA	JEFFERY M BALDO	EXEMPT	250	12	10	8/22/1973	6/24/1982	50	35	NO						
650137		A17020010BDC	DAVID C. & TAMMY M. HAGER	EXEMPT	300	6	8	1/1/1977	6/16/1982	45	30	NO						
805293		A18019017BDD	DOUGLAS AND PATRICIA POGUE	EXEMPT	0	0	0	12/31/1937	11/1/1988	0	0	NO						
905037		A18019010DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006									
907497		A18019023DDO	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					6/11/2007			YES						
907659		A17030010ADD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	510	500	21	8/28/2007	8/23/2007	129	0	NO		X				
907834		A17019002CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/26/2007	9/21/2007	90	NO	X						
907883		A17019020ADD	ARIZONA PUBLIC SERVICE CO	MONITOR	860	860	8	10/8/2007	9/28/2007	90	NO	X						
908486		A18019010DDB	SPARTA INVESTMENTS	MONITOR	30	30	3	3/1/2008	2/8/2008	25	NO	X						
909090		A18019016CDB	THRIFTWAY MARKETING	MONITOR	32	30	2	5/28/2008	5/23/2008	20	NO	X						
909098		A18019016DCA	THRIFTWAY MARKETING	MONITOR	32	32	5	5/29/2008	5/23/2008	20	NO	X						
909750		A180170200ADA	ROBERT J. SMITH	EXEMPT	160	160	5	9/28/2009	6/17/2008	35	35	NO						
909803		A18019028CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	510	500	5	11/6/2008	9/25/2008	20	NO	X						
910010		A18019030DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5	12/4/2008	11/6/2008	45	NO	X						
910011		A18019030DDB	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8	11/23/2008	11/6/2008	38	NO	X						
910013		A18019039BDA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5	11/6/2008	11/6/2008	34	NO	X						
910304		A18019016CDB	ROSS ROGERS	MONITOR	30	30	3	1/25/2009	1/15/2009	18	NO	X						
910314		A18019016CDB	ROSS ROGERS	MONITOR	30	30	3	1/29/2009	1/16/2009	18	NO	X						
910316		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18	NO	X						
910320		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18	NO	X						
912635		A17019012DAA	JESSIE AARVIN BLUNK	EXEMPT	363	100	6	12/1/2010	10/18/2010	83	NO	X						
915857		A17020010DDB	DAVID & BEBBIE SHUMWAY	EXEMPT					5/1/2014			NO		X				
917606		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	2	12/10/2014		12/8/2014	30	NO	X						
918640		A18019025ADD	ARIZONA PUBLIC SERVICE	MONITOR	14	12	4	9/18/2015	9/11/2015			NO		X				
918651		A18019025AAB	ARIZONA PUBLIC SERVICE	MONITOR					9/11/2015			NO		X				
918701		A18019013DDB	ARIZONA PUBLIC SERVICES	MONITOR	55	5	10/3/2015		6/30/2015			NO		X				
921392		A18019026BBD	OTHER	OTHER	1	6	2/27/2018		2/28/2018			NO		X				
921954		A18019023CDD	ARIZONA PUBLIC SERVICE	EXEMPT	86	70	4	5/22/2019	5/10/2019	46	NO	X						
923204		A18019015DCA	LOVES TRAVEL STOP AND COUNTRY STORES.	MONITOR					7/24/2019			NO		X				
924142		A18018010000	ARIZONA DEPARTMENT OF ENVIRONMENTAL	OTHER					4/6/2020			NO		X				
925218		A18020030CDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	55	53	6	12/11/2020	12/2/2020			NO		X				
925226		A1802003CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	12/11/2020	12/4/2020	40	NO	X						
926105		A18019023DAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	107	97	4	5/5/2021	4/22/2021	29	NO	X						
926109		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	88	2	7	5/14/2021	4/22/2021	21	NO	X						
926110		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	47	2	5/15/2021	4/22/2021	20	NO	X						
926115		A18020030CDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	54	0	1	5/16/2021	4/22/2021	22	NO	X						
926398		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC.	MONITOR	35	36	2	6/15/2021	6/9/2021	24	NO	X						ADWR records sent to APS in 2021 Q3
926816		A18019024BDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	65	65	4	10/5/2021	9/5/2021	23	NO	X						
926907		A17020010DDB	FURLEY, BERT	EXEMPT	85	80	6	11/3/1980	7/11/1980	18	300	NO		X				
928104		A17019012ADA	JOHNSON, M D	EXEMPT	200	68	6	11/3/1980	9/24/1997	40	30	NO		X				
928748		A18019023ACC	RANDALL, S	EXEMPT	365	365	8	8/29/1980	9/24/1980	74	0	NO		X				
928811		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO						
928814		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	14	14	1/1/1980	9/24/1997	25	0	NO						
928815		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14	1/1/1980	9/24/1997	25	0	NO						
928818		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO						
921190		A18020033BDD	RAYMOND H FURLEY	EXEMPT	250	137	7	1/24/2006	1/24/2006	100	NO	X						
212756		A18020033CDA	WILLIAM WIEGAND	EXEMPT	160	93	5	7/19/2006	7/3/2006	13	NO	X						
215330		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	30	29	5	4/24/2007	3/30/2007	19	NO	X						
217762		A18019015DCA	DELWIN OR EVELYN SOLOMON	NON-EXEMPT	400	400	8	9/18/2008	5/8/2008	45	400	NO		X				
211033		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL	MONITOR	30				8/26/2019			NO		X				
213181		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER								NO						App date 10/18/2020, Denied 12/13/2020
213185		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER								NO						App date 10/18/2020, Denied 12/13/2020
236622		A17020011AAC	ALEX W & JENNIE B HATCH	EXEMPT					3/28/2023			NO						Drill authority issued 4/13/23 - Updated Records were added to ADWR as of 7/05/22 Well Review. Sent to APS
500636		A17020004BDD	SCHADE J	NON-EXEMPT	250	70	8	1/1/1981	9/24/1997	20	NO	X						
502410		A17020010CCC	FERGUSON, M E	NON-EXEMPT	0	0	0		3/19/1982	0	0	NO						
503848		A17020007BDB	EDWIN & BRENDA BURROUGHS	EXEMPT	200	79	8	4/22/1983	6/22/1984	51	0	YES	X					
505356		A17020007BDD	MYERS, JOHN JR.W	NON-EXEMPT	0	0	0		5/10/1983	0	0	NO						
506364		A18019023AAA	AZ PUBLIC SERVICE.	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	X					
508359		A17020007AAA	HANSEN, H	EXEMPT	0	0	0		6/22/1984	0	0	NO						
518943		A18019015BDC	EL PASO NATURAL GAS.	OTHER	500	190	8	10/15/1987	9/2/1987	0	NO	X						
519640		A18019023CDD	AZ PUBLIC SERVICE.	EXEMPT	12	10	1	12/2/1987	11/13/1987	4	0	NO	X					
527039		A17019012DDB	MYERS, JOHN JR.W	EXEMPT	0	0	0		1/31/1990	0	0	NO						
527043		A17019012DDO	MYERS, JOHN JR.W	EXEMPT	0	0	0		1/31/1990	0	0	NO						

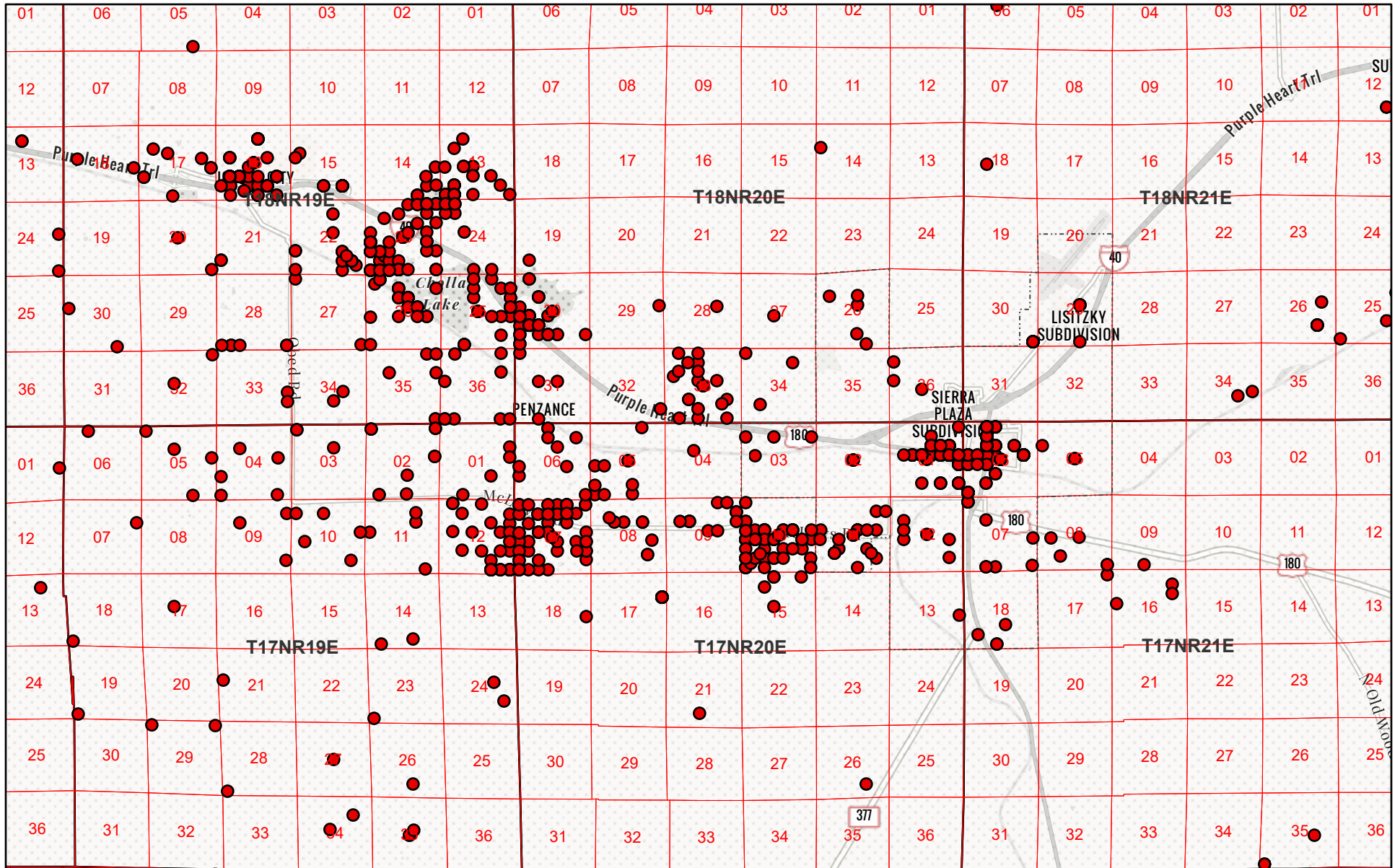
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO		
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978	6/10/1982	54	0	NO		
613173		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	90	28	1	3/22/1979	6/10/1982	19	0	NO		
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	18	0	NO		
613190		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979	6/10/1982	0	0	NO		
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979	6/10/1982	5	0	NO		
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	31	1	4/6/1979	6/10/1982	0	0	NO		
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979	6/10/1982	11	0	NO		
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/9/1979	6/10/1982	21	0	NO		
613400	345413110184401	A170190034CB	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	260	24	7/17/1974	6/9/1982	105	638	YES	X	
613404	345444110192501	A18019033DAD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	410	269	24	10/26/1977	6/9/1982	26	600	YES		
613411	345354110162701	A17019001DBD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	500	400	24	4/1/1977	6/9/1982	65	450	YES		
616735		A17020008BD	HUAN BARRERAS	NON-EXEMPT	390	60	10	4/1/1950	5/25/1982	45	395	YES		
618963		A17020007ABA	NEWTON F E	EXEMPT	135	7	12	4/1/1975	6/11/1982	4634	34000	NO		
620358		A17020010CBA	FERGUSON E J	NON-EXEMPT	100	22	12		6/14/1982	22	600	NO		
622735	345313110110401	A17020011ADC	DAVIS L W	NON-EXEMPT	0	0	8	1/2/1952	5/29/1982	0	50	NO		
637905		A180200338CA	HOLVOAK J	EXEMPT	170	40	6	3/19/1980	6/14/1982	100	35	NO		
638034		A18020031BDC	HUNT D	EXEMPT	130	40	9	10/20/1980	6/14/1982	33	25	NO		
642511		A18018011CCO	HANSEN BROTHERS	EXEMPT	810	220	11	1/17/1978	6/8/1982	33	0	NO	X	
644029		A180200338DA	EVELYN CAROLE USSHER	EXEMPT	400	155	8	7/14/1972	5/18/1982	101	30	NO		
645218		A17020011BDB	NASH A F	EXEMPT	0	0	0		6/8/1982	0	0	NO		
645395		A17019012BDD	CATHLEEN MILEHAM	EXEMPT	0	8	12		6/4/1982	89	0	NO		
649192		A17020010CBB	JOSEPH THOMAS SANTOS	EXEMPT	125	27	8	9/21/1976	6/14/1982	60	35	NO		
802073		A17020011DCC	OWENS E J	NON-EXEMPT	170	70	8	9/15/1979	3/14/1985	90	250	NO		
803003		A17020010CBA	WESTERN SAVINGS	EXEMPT	0	0	0		9/17/1985	0	0	NO		
806201		A17020011DDB	SEVENTH DAY ADVENT	NON-EXEMPT	250	80	12	12/31/1973	11/25/1991	35	500	NO		
806202		A17020011CCO	SEVENTH DAY ADVENT	NON-EXEMPT	200	0	10	12/31/1945	11/25/1991	35	100	NO		
808212	345452110245401	A18019034DAB	BRYAN & CASSYDE JOLLEY	NON-EXEMPT					8/9/2001			NO		Well ownership changed from Martin & Gwen Gilbert to Bryan & Cassyde Jolley
907679		A18019016CDB	SPARTA INVESTMENTS	MONITOR	31	30	8	8/29/2007	8/27/2007	25	NO	X		
907990		A17019002ADD	ARIZONA PUBLIC SERVICE CO	OTHER	860			10/9/2007	10/17/2007		NO	X		
908367		A1701902DCC	ARIZONA PUBLIC SERVICE	MONITOR	505	500	5	1/14/2008	1/18/2008	90	NO	X		
909067		A18019016CDB	THRIFTWAY MARKETING	MONITOR					5/23/2008		NO	X		
909093		A18019016CDB	THRIFTWAY MARKETING	MONITOR	20	20	2	5/31/2008	5/23/2008		NO	X		
909106		A18019016CDB	THRIFTWAY MARKETING	OTHER	18	18	2	5/31/2008	5/23/2008		NO	X		
910280		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910286		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910287		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
910305		A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO	X		
913769		A180190338AA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011	11/3/2011	28	NO	X		
917009		A18019023DCC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014		NO	X		
918639		A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015	9/11/2015		NO	X		
918641		A18019030CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/18/2015	9/11/2015		NO	X		
921042		A1801902DDB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/5/2017	11/3/2017	60	NO	X		
923205		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR					7/24/2019		NO			
925719		A18020030000	ARIZONA PUBLIC SERVICE	OTHER					1/12/2020		NO			
925729		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021		NO	X		ADWR records sent to APS in 2021 Q3
926814		A18019024BBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	69	3	9/30/2021	9/5/2021	62	NO	X		
927464		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC	MONITOR				12/10/2021	12/28/2021		NO	X		Drill Records in ADWR Database as of Q1 2023
927465		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/13/2021	12/28/2021		NO	X		Drill Records in ADWR Database as of Q1 2023

Key: = Well ownership changed

= Well owner's documents in ADWR Database as of Q1 2023

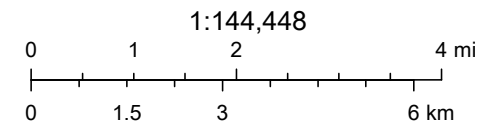
Data downloaded from ADWR Wells 55 database 01/05/2023

ADWR_Registry Review_01052023_2



January 6, 2023

- Well_Registry
- Section
- County
- City Boundaries
- Township



Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Registry No. (ESI)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Application Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received	Notes from WSP
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO			
086142		A18019023000	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14		1/1/1980	9/24/1997	25	0	NO	A	
086146		A18019023000	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14		1/1/1980	9/24/1997	25	0	NO	A	
086152		A18019023000	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14		1/1/1980	9/24/1997	0	0	NO	A	
086184		A18020033AC	EGBERT A	NON-EXEMPT	165	75	6		1/1/1980	9/24/1997	65	0	NO		
226669		A180180160CC	ANTONIO & CYNTHIA JAQUEZ	MONITOR					12/7/2016			NO			
233279		A180190160BC	THRIFTWAY MARKETING CORPORATION	OTHER								NO			Ann date 10/18/2020
233180		A180190160BC	THRIFTWAY MARKETING CORPORATION	OTHER								NO			App date 10/18/2020, marked as denied
233713		A180150160CB	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2		2/22/2021	1/27/2021		NO		X	ADWR records sent to APS in 2021 Q4
238564		A18020030AC	ARIZONA PUBLIC SERVICE	MONITOR					3/30/2023	3/30/2023		NO			No records available as of 2023 Q2
238564		A18020030AC	ARIZONA PUBLIC SERVICE	MONITOR					3/30/2023	3/30/2023		NO			No records available as of 2023 Q2
238565		A18020030AC	ARIZONA PUBLIC SERVICE	MONITOR					3/30/2023	3/30/2023		NO			No records available as of 2023 Q2
500712		A17020007CB	MYMAN AND JESSICA JOHN	EXEMPT	215	80	5		9/18/1981	8/17/1981	0	0	NO	C	X
500726		A17020007CB	JOHN HARVEY	EXEMPT	195	80	5		8/21/1981	8/21/1981	49	75	NO	X	X
503984		A18020033AC	SCHADE J	EXEMPT	200	201	6		10/14/1982	9/24/1982	90	0	NO	X	X
505634	3453121101A	A17020020AC	HOLBROOK TOWN OF	NON-EXEMPT	105	87	12		7/1/1983	6/14/1983	13	1450	YES	X	X
509260		A18020033AC	AZ PUBLIC SERVICE	EXEMPT	39	0	0		10/26/1983	9/21/1983	0	0	NO	N	X
510154		A17020010CB	BISSONNETTE & SMITH	EXEMPT	98	40	6		6/5/1985	1/28/1985	33	15	NO	X	X
519760		A17020007ABD	MEGGAN P MURRH	EXEMPT	150	32	6		7/10/1988	12/1/1987	35	20	NO	X	X
521468		A1701901200D	MYERS, JOHN JR,W	EXEMPT	200	67	6		6/14/1988	6/14/1988	75	12	NO	X	X
527040		A1701901200D	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527045		A1701901200D	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527046		A1701901200D	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527279		A180200086CA	HOLBROOK TOWN OF	NON-EXEMPT	0	0	0		3/25/1990	0	0	NO			
529605		A180190160CB	RADIAN CORP.	MONITOR	15	10	2		5/29/1991	5/29/1991	13	0	NO	N	X
529607		A180190160CA	RADIAN CORP.	MONITOR	15	10	2		5/28/1991	5/29/1991	13	0	NO	N	X
533819		A18020033AC	AZ PUBLIC SERVICE	MONITOR	0	0	0		11/26/1991	11/26/1991	0	0	NO	N	X
539111		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO			
539112		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO			
539117		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO			
539864		A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	40	5		7/24/1993	7/12/1993	25	0	NO		X
540040		A180190160CC	RADIAN CORP.	MONITOR	20	20	4		8/17/1993	8/17/1993	14	0	NO	N	X
540668		A1801902300D	AZ PUBLIC SERVICE	MONITOR	45	45	4		9/15/1993	9/15/1993	23	0	NO	N	X
540672		A18020010CB	ARIZONA PUBLIC SERVICE	MONITOR	45	45	4		9/24/1993	9/24/1993	18	0	NO	N	X
558423		A17020010CC	FERGUSON, MICHAEL	NON-EXEMPT	205	20	6		6/17/1996	6/17/1996	57	0	NO	C	X
562380		A180180160CC	JAQUEZ JR, ANTONIO	MONITOR	0	0	0		4/22/1997	0	0	NO	A		
572982		A170200086A	BOYD WESTOVER	EXEMPT					3/14/1999						
572827		A180180160CC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999						
572929		A180180160CC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999						
573061		A180180160CC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999						
578302		A180180160CC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999						
579541		A18020030AC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2		3/28/2000	2/8/2000	27	0	NO		X
583934		A17020007BA	KENNETH EDINGER	EXEMPT	160	60	6		12/18/2000	10/11/2000	49	0	NO	X	X
592776		A180180160CC	JACKSMITH TRADING POST	MONITOR	29	29	1		5/28/2003	5/28/2003	0	0	NO	A	X
599261		A18019017CDD	JOSEPH CITY SANITARY DISTRICT	MONITOR	30	30	6		8/5/2003	7/1/2003	6	NO		X	X
600208	3453021101A	A17020020AC	SHUMWAY, DREW	NON-EXEMPT	200	20	12		10/7/1983	10/7/1983	30	600	NO	N	N
600243		A17020010ACD	SHUMWAY, DREW	NON-EXEMPT	150	10	8		10/7/1983	10/7/1983	3	200	NO	N	N
600251		A170200086A	SHUMWAY, DREW	NON-EXEMPT	350	20	8		2/21/1974	10/7/1981	100	300	YES	N	N
600255	345311101A	A17020010ACD	SHUMWAY, DREW	NON-EXEMPT	150	10	8		1/1/1940	10/7/1981	3	100	NO	N	N
600273		A170180010CB	AZTEC LAND & CATTLE	EXEMPT	180	60	6		5/25/1966	5/25/1966	160	5	NO	N	N
604008		A1802003300D	DESPAIN, E	NON-EXEMPT	235	100	6		8/1/1964	9/21/1981	100	150	NO		
604926		A1702001100D	BRIGHAM YOUNG UNIV.	NON-EXEMPT	0	0	0		9/5/1961	9/5/1982	0	0	NO		
605481		A17020010CB	MC LAWS	NON-EXEMPT	100	213	5		3/21/1965	6/21/1982	12	100	NO		
605469	3454471101A	A1802003300A	WILLIAM WEGAND	NON-EXEMPT	208	208	6		12/15/1966	4/7/1982	168	120	NO	A	
606498		A1702001100D	ADAIR, F R	NON-EXEMPT	125	20	6		4/26/1982	4/26/1982	26	50	NO		
606724		A1702000800D	S FARMS, INC.	EXEMPT	0	0	0		5/1/1982	0	0	NO			
607786		A170200120CD	MYERS, JOHN JR,W	NON-EXEMPT	460	10	12		1/1/1960	5/1/1982	9	525	NO		
607788		A17020007B0C	JOHN W, MYERS, JR.	NON-EXEMPT	150	51	6		5/7/1976	5/7/1976	47	100	NO		
609540		A180190160CD	NEAL, R	NON-EXEMPT	200	0	8		1/1/1934	5/25/1982	19	500	NO		
613089	345431101A	A18020036CC	AZ PUBLIC SERVICE	NON-EXEMPT	350	55	10		12/1/1961	6/10/1982	27	950	YES	X	
613128		A18019026BAD	AZ PUBLIC SERVICE	EXEMPT	10	0	0		6/10/1982	6/10/1982	1	0	NO		
613153		A18019026DAB	AZ PUBLIC SERVICE	EXEMPT	92	80	6		9/4/1973	6/10/1982	40	0	NO		
613155		A1701901200A	AZ PUBLIC SERVICE	EXEMPT	61	61	0		6/10/1982	6/10/1982	0	0	NO	A	
613176		A180190140AC	AZ PUBLIC SERVICE	EXEMPT	80	3	1		8/21/1979	6/10/1982	77	0	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	57	25	1		3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	53	28	1		2/29/1979	6/10/1982	33	0	NO		
613182		A18019013KAA	AZ PUBLIC SERVICE	EXEMPT	50	1	1		6/10/1982	6/10/1982	12	0	NO		
613189		A18019025ADA	AZ PUBLIC SERVICE	EXEMPT	112	32	1		6/10/1982	6/10/1982	97	0	NO		
613206		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	60	38	1		3/27/1979	6/10/1982	0	0	NO		
613208		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	60	38	1		3/27/1979	6/10/1982	0	0	NO		
613212		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	51	29	1		4/5/1979	6/10/1982	18	0	NO		
613218		A18020030BC	AZ PUBLIC SERVICE	EXEMPT	100	79	1		5/1/1979	6/10/1982	59	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE	EXEMPT	50	28	1		4/10/1979	6/10/1982	21	0	NO		
613406	3453261101A	A170190090DA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	319	24		12/20/1977	6/9/1982	126	1250	YES		
613410	3453231101F	A17019011ACA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	530	319	24		7/1/1977	6/9/1982	82	800	YES		
613425		A17019005ADD	AZTEC LAND & CATTLE CO LTD	EXEMPT	845	112	10		7/21/1978	6/9/1982	42	0	NO		
620259		A17020010CB	FERGUSON J	NON-EXEMPT	100	15	10		12/1/1966	6/14/1982	22	400	NO		
627202		A170190120CD	ALVIN H & DARSEL MINTER	NON-EXEMPT	250	10	7		12/12/1976	2/9/1982	74	100	NO		
628564		A1702000700D	EDWIN & BERENDA BURROUGHS	NON-EXEMPT	250	35	6		6/21/1982	6/21/1982	65	65	YES		
631391		A1702000700B	PAGE, FRANK	EXEMPT	175	48	6		1/21/1980	3/21/1982	155	25	NO		
634414		A17020010ACD	TERMAIN, D	NON-EXEMPT	100	10	8		4/1/1975	6/21/1982	8	100	NO		
650254	345310101A	A17020010CB	PAULSELL, L	EXEMPT	85	45	6								

919228	A17020009ACC	DOREEN JOHNSON	EXEMPT	250	250	6	11/8/2016	4/4/2016	40	30	NO	X	X			
919787	A18019023BCC	ARIZONA PUBLIC SERVICE	MONITOR	60	60	4	8/25/2016	8/12/2016	40	NO	NO	X	X			
922289	A18019023CDB	ARIZONA PUBLIC SERVICE	MONITOR	25	15	4	11/17/2018	11/17/2018	14	NO	NO	X	X			
923206	A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR				7/24/2019	7/24/2019		NO						
9232618	A18019024B8B	ARIZONA PUBLIC SERVICE	MONITOR	53		3	11/18/2019	11/18/2019		NO			X	X		
923973	A180190202DD	ARIZONA PUBLIC SERVICE	OTHER	48			3/2/2020	3/2/2020		NO		A	X	X		
936059	A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	130	130	6	4/22/2021	4/22/2021	4	NO	NO					
936104	A18019023CAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	64	64	4	4/22/2021	4/22/2021	35	NO	NO	X	X			
936240	A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	51	47	6	5/15/2021	5/14/2021	10	NO	NO	X	X			
927469	A18019023AAD	ARIZONA PUBLIC SERVICE	OTHER				12/10/2021	12/10/2021		NO						
927466	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/28/2021	12/28/2021		NO		X	X		Drill Records in ADWR Database as of Q1 2023	
086112	A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0	10/29/1980	0	0	NO						
087075	A17020007BCKA	SABRY V HANCOCK	EXEMPT	175	60	6	8/11/1981	8/5	0	NO	X	X				
215327	A18019010DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	3/20/2007	4/25/2007	19	NO	NO	X	X			
215541	A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38	NO	NO	X	X			
120206	A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER				10/15/2010	10/15/2010		NO						
220297	A17020010DAA	CITY OF HOLBROOK	NON-EXEMPT	200	41	16	5/13/2011	12/30/2010	20	1400	NO	X	X			
220454	A18019022DDO	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	3/21/2011	40	NO	NO	A	X	X			
231035	A18019010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	MONITOR	30			8/26/2019		NO	NO	A					
238562	A18020030CAC	ARIZONA PUBLIC SERVICE	EXEMPT				3/30/2023		NO						No records available as of 2023 Q2	
238563	A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT				3/30/2023		NO						No records available as of 2023 Q2	
482933	A18019028CCD	ARIZONA PUBLIC SERVICE	NON-EXEMPT	220	148	7	12/16/2020	7/23/2020	22	NO						
501812	A17020010BDC	SHUMWAY D	EXEMPT	100	39	6	5/12/1982	1/19/1982	24	0	NO	C	X			
503847	A17020007CCC	EDWIN & BRENDA BURROUGHS	EXEMPT	200	79	8	5/8/1983	37	0	YES	C	X	X			
506370	A18019023ADA	AZ PUBLIC SERVICE	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X	X		
508371	A18019023DAB	AZ PUBLIC SERVICE	EXEMPT	54	47	5	11/12/1983	9/21/1983	37	0	NO	N	X	X		
515770	A17020007BDD	YAZZIE ALFRED	NON-EXEMPT	200	80	0	10/7/1986	54	3	NO	X	X	X			
516042	A17020007DAD	JANSEN, CORNELIS	NON-EXEMPT	175	50	6	11/4/1986	42	20	NO	X	X	X			
518211	A17020007B8B	TERMAN, GERALD	EXEMPT	200	40	6	6/19/1987	39	0	NO	C	X	X			
527034	A17020007ABA	CHRISTOPHER & SHEERA DUNSMORE	EXEMPT	350	30	6	7/21/1988	45	0	NO	C	X	X			
527042	A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0	1/31/1990	0	0	NO						
527044	A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0	1/31/1990	0	0	NO						
527047	A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0	1/31/1990	0	0	NO						
531124	A17020010BDC	SHUMWAY, DREW	NON-EXEMPT	275	20	14	3/7/1991	12	750	NO	X	X	X			
531814	A18019013CCA	AZ PUBLIC SERVICE	MONITOR	62	62	5	11/26/1991	4	0	NO	N	X	X			
533815	A18019013CCD	AZ PUBLIC SERVICE	MONITOR	0	0	0	11/26/1991	0	0	NO	N	X	X			
536056	A18020030CBA	AZ PUBLIC SERVICE	MONITOR	21	0	0	7/20/1992	20	0	NO	N	X	X			
536059	A18020030CBA	AZ PUBLIC SERVICE	MONITOR	40	0	0	7/28/1992	33	0	NO	N	X	X			
539103	A18020030C8D	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	5/12/1993	1	0	NO	A	X	X			
539106	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	0	0	0	5/12/1993	0	0	NO						
540041	A18019016DCC	RADIAN CORP.	MONITOR	20	20	4	9/16/1993	15	0	NO	N	X	X			
540042	A18019016DCA	RADIAN CORP.	MONITOR	20	20	4	9/16/1993	13	0	NO	N	X	X			
540692	A17020010C8B	KENNETHA LEE	EXEMPT	250	20	6	11/24/1994	27	100	NO	C	X	X			
547036	A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	3/11/1995	25	0	NO	A	X	X			
547254	A180190250DD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	50	0	0	6/16/1995	0	0	NO	N	X	X			
548469	A17020007B8C	KEVIN COPAZZA	EXEMPT	145	54	6	3/6/1995	60	18	NO	X	X	X			
552166	A180200338BA	CLINTON HADDOX	EXEMPT	0	0	0	9/18/1995	0	0	NO						
552869	A17020005C8B	LOPEZ, ODELL	EXEMPT	100	41	6	10/16/1995	34	20	NO	X	X	X			
567466	A17020005C8B	FERNANDO AND ROBIN LEDEZMA	EXEMPT	130	43	6	2/27/1996	50	NO	NO	X	X	X			
578200	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR				11/19/1999			NO						
578204	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR				11/19/1999			NO						
578300	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR				11/19/1999			NO						
578304	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR				11/19/1999			NO						
580185	A17020006BAA	BOYD L WESTOVER	EXEMPT	173	38	6	8/15/2000	26	NO	NO	X	X				
582886	A18020030C8D	ARIZONA PUBLIC SERVICE	MONITOR				8/15/2000			NO						
588008	A18019016CAC	HARTLEY TURLEY	MONITOR				7/19/2001			NO						
588013	A18019016CAC	HARTLEY TURLEY	MONITOR	40	40	4	3/6/2002	9	NO	A	X	X				
588015	A18019016CAC	HARTLEY TURLEY	MONITOR				7/19/2001			NO	A					
588018	A18019016CAC	HARTLEY TURLEY	MONITOR				7/19/2001			NO						
588021	A18019016CAC	HARTLEY TURLEY	MONITOR				7/19/2001			NO						
592674	A17020007BAA	BOBBIE C WRIGHT	EXEMPT	205	45	6	8/9/2002	57	NO	NO	X	X				
592774	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	30			5/28/2002			NO	A					
592775	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	30			5/28/2002			NO	A					
594039	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	25			8/9/2002			NO	A					
594797	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER				9/27/2002			NO						
600248	3454201102A	FUELC TRAVEL CENTER	NON-EXEMPT	495	60	10	10/27/1981	27	300	NO	N	N	N			
600253	A17020010BDC	SHUMWAY, DREW	NON-EXEMPT	200	10	12	10/7/1981	20	400	NO	N	N	N			
600372	A17019012DAC	DAVID DESPAIN	NON-EXEMPT	300	71	6	2/14/1975	50	100	YES	N	X	X			
600378	3453241102A	DAVID & BRENDA SHUMWAY	NON-EXEMPT	75	5	12	9/28/1981	38	100	NO	N	N				
604247	A17020010C8B	L GRANT BRINKERHOFF	EXEMPT	0	0	6	2/16/1994	21	100	NO	C	X	X			
606477	A17020010C8B	JEFFERS, J C	NON-EXEMPT	150	0	0	4/30/1982	17	0	NO						
606725	A17020008DDO	J S FARMS, INC	EXEMPT	0	0	0	5/31/1982	0	35	NO						
610600	A17020007DAD	JEAN GEORGE	NON-EXEMPT	250	9	12	3/10/1974	49	75	YES						
613095	3454151102D	A17019004B0B	AZ PUBLIC SERVICE	430	85	24	7/1/1978	6/10/1982	30	900	YES	X				
613126	A18019026BAD	AZ PUBLIC SERVICE	EXEMPT	6	0	2	6/10/1982	2	0	NO						
613138	A18019026CAB	AZ PUBLIC SERVICE	EXEMPT	18	0	0	6/10/1982	0	0	NO						
613166	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO					
613169	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	154	114	1	6/10/1982	29	0	NO						
613170	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	102	87	1	6/10/1982	27	0	NO						
613188	A18020030CBA	AZ PUBLIC SERVICE	EXEMPT	191	125	2	6/13/1982	69	0	NO						
613207	A18020030C8B	AZ PUBLIC SERVICE	EXEMPT	60	38	1	6/10/1982	53	0	NO						
613220	A18019025ADD	AZ PUBLIC SERVICE	EXEMPT	60	38	1	4/4/1979	6/10/1982	51	0	NO					
613412	3453421100D	A17019005CDD	AZTEC LAND & CATTLE CO LTD	365	259	24	7/1/1978	6/9/1982	69	500	YES					
613413	A1801902788B	AZTEC LAND & CATTLE CO LTD	EXEMPT	840	285	10	1/1/1977	6/9/1982	14	0	NO					
613414	A1701900588B	AZTEC LAND & CATTLE CO LTD	EXEMPT	1020	282	10	1/1/1977	6/9/1982	111	0	NO					
613422	A18019020DCC	AZTEC LAND & CATTLE CO LTD	EXEMPT	670	388	10	6/2/1977	6/9/1982	72	0	NO					
617485	A17020011AAD	MYERS, J	NON-EXEMPT	270	100	12	1/12/1932	1/12/1932	11	100	NO					
618132	A17020010CCB	FARMERS HOME	EXEMPT	150	150	6	1/1/1977	6/9/1982	50	35	NO					
618962	A17020007ABA	STEVEN & CAROLYN KALLESTAD	NON-EXEMPT	135	7	12	10/1/1975	4/11/1982	46	97	YES					
620306	A18019010CCC	WALSON G	NON-EXEMPT	180	30	10	6/14/1982	90	1000	NO						
620724	3457361102D	A18019017ADC	JOSEPH CITY IRRIG CO	425	275	12	1/14/1975	6/14/1982	90	1200	YES					
628494	3457271102D	A180190160DD	JOSEPH CITY WATER	460	300	10	1/1/1946	5/13/1982	70	300	NO					
629495	3457201102D	A180190170BC	JOSEPH CITY WATER	400	300	10	10/1/1977	5/9/1982	50	600	YES					
629686	3453201101S	A17020007AAC	MELINDA WHITE	0	0	0	3/2/1982	0	35	NO						
629709	A17020010C8B	BRANDON & BRIGGETTE BRIMHALL	EXEMPT	115	20	6	1/1/1979	3/1/1982	40	20	NO					
629893	A18020030CAC	THOMAS W	EXEMPT	170	90	6	3/12/1980	20	25	NO						
641098	A17020007CCC	JAMES PRUITT	EXEMPT	180	10	6	2/8/1975	4/15/1982	100	0	NO	X	X			
642512	A18019013BAD	NEW MEXICO-AZ LND CO	EXEMPT	795	68	16	4/8/1978	35	0							

910318	A18019016C8D	ROSS ROGERS	MONITOR	32	32	4		1/29/2009	1/16/2009	18	NO		A	X		
910623	A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	42	41	2		4/1/2009	4/8/2009	25	NO		A	X		
911102	A17020002DD	CITY OF HOLBROOK	OTHER	1					9/11/2009		NO					
913770	A18019023CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59			11/30/2011	11/30/2011	39	NO		A	X		
913772	A180190220DB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183				11/30/2011	11/30/2011		NO		A	X		
913985	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	MONITOR								NO					
918505	A17020009ACD	TYLER KEE STINGLEY	EXEMPT	175	175	7			6/10/2015	35	80	NO	X	X		
918649	A18019013BAC	ARIZONA PUBLIC SERVICE	MONITOR	450	445	5			11/11/2015	225	NO		X	X		
918658	A18019023C8D	ARIZONA PUBLIC SERVICE	MONITOR	97	84	5			9/14/2015	42	NO		X	X		
921016	A180190220DB	ARIZONA PUBLIC SERVICE - APS	MONITOR	126	119				10/26/2017	90	NO					
921058	A1801902688A	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2			11/8/2017	37	NO		X	X		
921061	A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR						11/8/2017		NO		X	X		
922361	A180190150DB	ARIZONA PUBLIC SERVICE	MONITOR	50	45				11/17/2018	34	NO		X	X		
923207	A180190150CA	LOVES TRAVEL SHOP & COUNTRY STORE, INC.	MONITOR						7/24/2019		NO		X	X		
923825	A17020010CCB	CLARK, COLIE	EXEMPT	170	170	6			1/22/2020		NO		X	X		
935111	A18020030C8D	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	51	50	2			4/23/2021	19	NO		X	X		
936116	A18020030C8D	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	19	18	4			4/23/2021	1	NO		X	X		
936813	A1801902488A	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	26	26	6			9/29/2021	18	NO		X	X		
936815	A1801902488A	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	66	3			9/29/2021	19	NO		X	X		
927467	A180190150CA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR						12/28/2021		NO					
927468	A180190150CA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR						12/28/2021		NO					
929236	A180190150CA	LOVES TRAVEL STOPS & COUNTRY STORES, INC (CHRIS	EXEMPT	15	15	2			6/8/2022	9	NO		X	X		
929237	A180190150CA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	25	25	2			6/8/2022	20	NO		X	X		
085794	A18020033BAD	ERKKILA, W O	EXEMPT	200	140	6			1/1/1997	100	0	NO				
086110	A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0			10/29/1980	0	0	NO				
086149	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14			1/1/1980		0	NO	A			
086150	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14			1/1/1980		25	0	NO	A		
086151	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14			9/24/1997	25	0	NO	A			
204270	A1802003488B	RANDY MURPH	NON-EXEMPT	240	100	8			7/18/2004	41	NO			X		
205720	A1802003CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	47				3/20/2005	35	NO		A	X		
215331	A180180100AA	JACKRABBIT TRADING POST	MONITOR	30	28	5			3/30/2007	19	NO		X	X		
213176	A18019016DCB	THRIFTWAY MARKETING CORPORATION	MONITOR								NO					
213178	A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER								NO					
505455	A17019012ADC	ALLEN, C G	EXEMPT	200	69	6			6/1/1983		5/23/1983	70	24	NO	X	X
506365	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	54	54	5			10/11/1983	20	0	NO	N	X	X	
506366	A18019023ABD	ARIZONA PUBLIC SERVICE	EXEMPT	118	65	5			9/22/1983	26	0	NO	A	X	X	
511932	A17020007ACA	GROSS, K H	EXEMPT	0	0	0			7/30/1985	0	0	NO				
511840	A17020007DAA	THOMAS HENSON	NON-EXEMPT	170	50	6			5/2/1986	90	27	NO	X	X		
514992	A17020007BDD	YUZZE, ALRED	NON-EXEMPT	250	80	8			8/25/1986	130	245	YES	X	X		
527048	A180190120DC	MYERS, JOHN JR W	EXEMPT	0	0	0			1/31/1990	0	0	NO				
527280	A18020026AC	HOLBROOK, TOWN OF	NON-EXEMPT	78	78	7			3/10/1990	17	0	NO	N	X	X	
527282	A18020026CB	HOLBROOK, TOWN OF	NON-EXEMPT	42	42	6			3/8/1990	0	0	NO	N	X	X	
529667	A18019014ABD	FRANKS, MOLLE	MONITOR	400	395	0			7/19/1990	259	360	NO	X	X		
538812	A18019013CCA	AZ PUBLIC SERVICE	MONITOR	293	292	5			11/26/1991	84	0	NO	N	X	X	
538818	A18019013CCD	AZ PUBLIC SERVICE	MONITOR	0	0	0			11/26/1991	0	0	NO	N	X	X	
538055	A18020030C8A	AZ PUBLIC SERVICE	MONITOR	40	18	4			7/23/1992	33	0	NO	N	X	X	
537495	A18020031CCD	WESTOVER, BOYD L	EXEMPT	125	125	0			2/21/1993	6	0	NO	C			
539097	A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	20	5			7/8/1993	5	0	NO	C	X	X	
539104	A18020030C8D	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5			6/21/1993	5	0	NO	A	X	X	
539110	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	0	NO	N	X	X	
539121	A18019013CCD	AZ PUBLIC SERVICE	MONITOR	20	10	2			5/19/1993	1	0	NO	N	X	X	
541684	A180190158CC	EL PASO NATURAL GAS	OTHER	500	180	8			12/12/1993	0	0	NO	N	X	X	
541814	A17020010ADD	FISH BROS, LLC	NON-EXEMPT	200	42	12			6/16/1996	5	0	NO	A	X	X	
566113	A17020005C8A	MARK LINO & ROSA PONCE	EXEMPT	125	52	8			12/21/1998	41	NO		X	X		
578288	A18018010CCC	ANTONIO JAUQUEZ JR	MONITOR						11/19/1999		NO					
578287	A18018010CCC	ANTONIO JAUQUEZ JR	MONITOR						11/19/1999		NO					
578303	A18018010CCC	ANTONIO JAUQUEZ JR	MONITOR						11/19/1999		NO					
579543	A18020030C8D	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2			3/27/2000	25	NO		X	X		
579545	A18020030C8D	ARIZONA PUBLIC SERVICE	MONITOR	83	73	2			3/27/2000	46	NO		X	X		
594035	A18018010CCC	JACKRABBIT TRADING POST	MONITOR						8/9/2002		NO					
594038	A18018010CCC	JACKRABBIT TRADING POST	MONITOR						8/9/2002		NO					
594796	A18019023000	ARIZONA PUBLIC SERVICE COMPANY	MONITOR						9/21/2002		NO					
600512	A17020010DAA	SHUMWAY, DREW	NON-EXEMPT	225	42	12			2/27/1980	75	300	NO	N	N	N	
600256	3453031101A17020010DAC	SHUMWAY, DREW	EXEMPT	280	112	10			1/7/1940	35	30	NO	N	N	N	
600376	A18019017DAA	F B HANSEN	EXEMPT	450	120	8			1/1/1945	90	20	NO	N	N	N	
600383	3453451100A17020010DAD	AZTEC LAND & CATTLE	EXEMPT	130	130	0			9/28/1981	100	7	NO	N	X	X	
600521	A17020007ABC	JANSEN, H W	NON-EXEMPT	250	12	12			8/16/1971	50	150	NO	N	N		
6001836	A17020112AAD	B & C United Enrges	NON-EXEMPT	325	10	12			1/1/1962	60	240	YES				
602783	A180190120DC	YAZZIE, ALRED	NON-EXEMPT	100	100	6			2/10/1980	46	100	NO				
602965	3453201101A17020008B0B	J-S FARMS, INC. A COLORADO CORP	NON-EXEMPT	200	20	10			1/1/1942	160	YES					
603270	A18020031000	THOMPSON, G C	EXEMPT	210	100	6			4/1/1964	100	60	NO				
603864	3453141101A17020011AC	HEWESOD, J	NON-EXEMPT	200	0	4			9/14/1982	50	40	NO				
605617	A18020034000	FRANKS, MOLLE	NON-EXEMPT	300	300	0			3/12/1973	125	45	NO				
607767	A170190120CD	MYERS, JOHN JR W	NON-EXEMPT	250	10	7			12/1/1976	94	100	NO				
607769	A170190120CD	MYERS, JOHN JR W	NON-EXEMPT	180	8	8			5/7/1986	81	100	NO				
608472	3456371101A180190230C	LARRY C & AVA RACHEL BALDWIN	NON-EXEMPT	440	343	10			3/10/1967	10	1000	NO				
613090	3454341101A18019030CCD	AZ PUBLIC SERVICE	NON-EXEMPT	350	60	24			3/10/1962	37	2000	YES				
613091	3454341101A170190020BC	AZ PUBLIC SERVICE	NON-EXEMPT	487	320	16			8/1/1967	610	750	YES				
613096	A170190120CD	ARIZONA PUBLIC SERVICE	NON-EXEMPT	458	79	7			12/16/2020	103	900	NO				
613135	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	10	0	0			6/10/1982	8	0	NO				
613142	A18019026ACD	AZ PUBLIC SERVICE	EXEMPT	35	0	0			6/10/1982	13	0	NO				
613151	A18019026ACA	AZ PUBLIC SERVICE	EXEMPT	57	53	6			6/10/1982	40	0	NO				
613152	A18019026AC	ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT	EXEMPT	56	49	6			8/30/1973	32	0	NO	A			
613164	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	44	28	1			6/10/1982	28	0	NO				
613174	A18019024DAA	AZ PUBLIC SERVICE	EXEMPT	80	48	1			10/31/1978	28	0	NO				
613175	A18019014ADB	AZ PUBLIC SERVICE	EXEMPT	81	41	1			3/20/1979	52	0	NO				
613193	A18019025DAA	AZ PUBLIC SERVICE	EXEMPT	26	16	1			6/10/1982	30	0	NO				
613196	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	146	133	2			6/10/1982	27	0	NO				
613210	A18020030C8A	AZ PUBLIC SERVICE	EXEMPT	50	28	1			6/10/1982	0	0	NO				
613401	3452471101A170190110DC	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	299	24			6/9/1987	96	750	YES				
613408	3455001102A180190328DD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	500	314	24			6/9/1982	98	1050	YES	X			
613417	A180190270DD	AZTEC LAND & CATTLE CO LTD	EXEMPT	900	160	0			1/1/1977	14	0	NO				
613444	A18018014ADD	AZTEC LAND AND CATTLE CO, LTD	EXEMPT	785	785	0			6/9/1982	0	0	NO				
614307	A18020028ACD	AZ STATE LAND DEPT.	EXEMPT	0	0	0			1/1/1975	0	17	NO				
614744	A17020020000	DANIEL & BEKA HEALY	NON-EXEMPT	75	3	8			1/1/1950	25	250	NO				
614980	A17020007ADD	DANFEN, ALRED	NON-EXEMPT	250	100	0			1/4/1974	60	100	YES				
614960	A17020007CCB	FIRK														

918661	A18019023C8C	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/7/2015		9/14/2015	41	NO			X			
919790	A18019024CDD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/23/2016		8/13/2016	42	NO			X			
920467	A17000109C	MICHAEL SERVA	EXEMPT	160	160	1	EXEMPT		4/19/2017	68	NO			X			
921515	A18020014C8B	JAMES CASEY MURRH	EXEMPT	160	160	4	EXEMPT		4/24/2018	60	NO			X			
922300	A18020030C8C	ARIZONA PUBLIC SERVICE	MONITOR	60	49	4	MONITOR		11/27/2018	29	NO			X			
922316	A18020030C8D	ARIZONA PUBLIC SERVICE	MONITOR	60	49	4	MONITOR		12/10/2020	35	NO			X			
925727	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC.	MONITOR	36	36	2	MONITOR		3/11/2021	31	NO			X			ADWR records sent to APS in 2021 Q3
926101	A18019013CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR						4/22/2021		NO			X			
929259	A18019027000	AZTEC LAND & CATTLE COMPANY	OTHER						3/28/2023		NO						Drilline card has been filed and expires on 3/28/2024. No evidence of well completion
085257	A1702002DAB	MERILE & RUSSELL	EXEMPT	175	58	6	EXEMPT	1/3/1980		3/24/1997	80	0	NO				
205718	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR						10/29/2000		NO						
205719	A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	MONITOR	3/9/2004			34	NO			X		
207696	A17020007AAA	JACK R PICKETT JR	EXEMPT	175	60	6	EXEMPT	5/29/2005		5/4/2005	67	16	NO	X			
215329	A180190100AA	JACKRABBIT TRADING POST	MONITOR	32	30	5	MONITOR	4/24/2007		3/30/2007	39	NO			X		
215540	A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					6/52/2009		4/26/2007		NO			X		
212663	A1701900388B	EL PASO NATURAL GAS COMPANY, LLC - A KINDER MORGAN COMPANY	OTHER	20	490	12	OTHER	7/25/2020		9/2/2020		NO	A				
213264	A17019012DAD	ARIZONA PUBLIC SERVICE COMPANY	EXEMPT	360	79	7	EXEMPT	12/16/2020		10/30/2020	92	NO			X		
482985	A1802003080B	ARIZONA PUBLIC SERVICE	MONITOR	56	55	1	MONITOR					NO	A				
502455	A18019016D0C	RANDALL D	NON-EXEMPT	0	0	0	NON-EXEMPT			3/25/1982	0	0	NO				
524566	A18019023000	AZ PUBLIC SERVICE	OTHER	185	40	6	OTHER	6/8/1989		5/17/1989	0	0	NO	N		X	
533811	A18019013CCA	AZ PUBLIC SERVICE	MONITOR	259	258	5	MONITOR	11/26/1991		11/26/1991	114	0	NO	N		X	
533816	A18019023AAA	AZ PUBLIC SERVICE	MONITOR	240	238	5	MONITOR	12/19/1991		11/26/1991	80	0	NO	N		X	
539095	A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	40	20	5	EXEMPT	5/23/1993		5/23/1993	5	0	NO	C		X	
539099	A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	40	20	5	EXEMPT	7/9/1993		5/23/1993	5	0	NO	C		X	
539114	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	0	0	0	EXEMPT			5/12/1993	0	0	NO				
539116	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	0	0	0	EXEMPT			5/12/1993	0	0	NO				
539225	A17020007DAA	GARY AND MELISSA HUNT	EXEMPT	174	54	5	EXEMPT	6/18/1993		5/18/1993	74	30	NO	X			
539861	A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	40	40	0	EXEMPT	7/12/1993		7/12/1993	25	0	NO				
541711	3455311101A	A18020027CAA DALE MCKINNON	NON-EXEMPT	460	320	8	NON-EXEMPT	12/6/1994		3/25/1994	207	0	NO	C		X	
547039	A18019023CDD	APS	MONITOR	0	0	0	MONITOR	12/30/1994		0	0	NO	N				
553267	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	49	49	1	EXEMPT	11/20/1995		11/20/1995	2	25	NO	X			
553268	A18020030C8C	ARIZONA PUBLIC SERVICE	MONITOR	50	50	4	MONITOR	11/30/1995		11/30/1995	0	0	NO	N			
553270	A18019036AAB	AZ PUBLIC SERVICE	MONITOR	0	0	0	MONITOR	4/22/1997		4/22/1997	0	0	NO	A			
563231	A180190100CC	JAQUEZ JR ANTONIO	MONITOR	0	0	0	MONITOR	4/22/1997		4/22/1997	15	0	NO	A			
562333	A180190100CC	ANTONIO JAQUEZ JR	MONITOR	25	5	4	MONITOR	4/17/1998		4/22/1997	15	0	NO	A		X	
578289	A180190100CC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO						
588012	A18019016CAC	HARTLEY TURLEY	MONITOR	45	45	4	MONITOR	7/19/2001		7/19/2001	26	NO		X			
588019	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001		7/19/2001		NO					
588020	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001		7/19/2001		NO					
590313	A17020010C8B	ANTHONY AND CARLA HEWITT	EXEMPT	200	60	10	EXEMPT	6/7/2002		12/24/2001	74	NO		X			
590553	A17020007C8B	DUANE RAY CHARLEY	EXEMPT	215	50	5	EXEMPT	2/28/2002		10/4/2002	81	220	NO	X			
590554	A17020007C8C	ROBERT MCLAWS	EXEMPT	215	50	5	EXEMPT	3/8/2002		1/14/2002	86	NO	X				
595849	A18019016CAC	HARTLEY TURLEY	MONITOR	10	10	0	MONITOR	10/1/2002		11/18/2002	20	NO	A		X		
600245	A17020003CDD	SHUMWAY, DREW	NON-EXEMPT	225	10	10	NON-EXEMPT	1/17/1940		NO	71/1981	10	300	YES	N	N	
600250	3452471101A	A17020011D0B SHUMWAY, DREW	NON-EXEMPT	410	65	12	NON-EXEMPT	10/7/1981		10/7/1981	40	300	NO	N			
600254	A17020003CDD	SHUMWAY, DREW	NON-EXEMPT	200	20	8	NON-EXEMPT	10/7/1981		10/7/1981	3	100	NO	N		N	
602963	A17020008DAB	J S FARMS, INC. A COLORADO CORP	NON-EXEMPT	220	35	10	NON-EXEMPT	1/17/1940		2/17/1982	28	400	YES				
603796	A18019016CAC	CORNELIUS R KRSTI J JANSEN	NON-EXEMPT	450	0	0	NON-EXEMPT	10/1/1946			0	25	YES				
604689	3453081101A	A17020010CAA D'AMICO, DONALD R	NON-EXEMPT	150	150	12	NON-EXEMPT	1/17/1971		3/11/1982	15	1100	YES				
604918	A17020007C8B	DARRYL A & CYNTHIA STEEN	NON-EXEMPT	200	126	6	NON-EXEMPT	7/31/1979		3/8/1982	80	35	YES				
604961	3458311101A	A180190100AA THE CAROL A SHUFF REVOCABLE TRUST	EXEMPT	50	50	0	EXEMPT	1/12/1910		4/21/1982	30	20	NO	A			
609539	A18019016CDD	NEAL T R	NON-EXEMPT	0	0	3	NON-EXEMPT	1/9/1936		5/25/1982	19	0	NO				
613097	3453161101A	A17019012CAC ARIZONA PUBLIC SERVICE	NON-EXEMPT	576	78	11	NON-EXEMPT	12/16/2020		6/10/1982	97	600	NO	X			
613099	A17020006D0D	ARIZONA PUBLIC SERVICE COMPANY	EXEMPT	127	25	5	EXEMPT	12/16/2020		6/10/1982	17	0	NO				
613133	A180190268DA	AZ PUBLIC SERVICE	EXEMPT	18	0	0	EXEMPT			6/10/1982	17	0	NO				
613134	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	45	0	0	EXEMPT			6/10/1982	17	0	NO				
613140	A18019026ACD	AZ PUBLIC SERVICE	EXEMPT	45	0	0	EXEMPT			6/10/1982	18	0	NO				
613144	A180190268DA	AZ PUBLIC SERVICE	EXEMPT	374	0	12	EXEMPT			6/10/1982	13	0	NO				
613154	A18019022DCA	AZ PUBLIC SERVICE	EXEMPT	100	100	6	EXEMPT			9/17/1973	5	0	NO				
613159	3458021101A	A18019011CCD	EXEMPT					1/17/1978		6/10/1982	0	0	NO				
613168	A18019023AAB	AZ PUBLIC SERVICE	EXEMPT	50	33	2	EXEMPT	10/31/1982		6/10/1982	1	0	NO				
613178	A180190140CD	AZ PUBLIC SERVICE	EXEMPT	67	38	1	EXEMPT	3/10/1979		6/10/1982	39	0	NO				
613187	A18019013CCC	AZ PUBLIC SERVICE	EXEMPT	50	25	1	EXEMPT	2/24/1979		6/10/1982	0	0	NO				
613189	A18019013CCC	AZ PUBLIC SERVICE	EXEMPT	51	31	1	EXEMPT	3/22/1979		6/10/1982	7	0	NO				
613209	A18019025AAC	AZ PUBLIC SERVICE	EXEMPT	50	28	1	EXEMPT	4/7/1979		6/10/1982	39	0	NO				
613209	A18020030C8D	AZ PUBLIC SERVICE	EXEMPT	51	29	1	EXEMPT	4/6/1979		6/10/1982	0	0	NO				
613223	A18019025ADA	AZ PUBLIC SERVICE	EXEMPT	58	1	1	EXEMPT	5/8/1979		6/10/1982	37	0	NO				
613402	3453441101A	A17019010L0C AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	470	279	24	NON-EXEMPT	6/9/1982		6/9/1982	69	1000	YES				
613405	3453221102A	A1701900980B AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	415	293	24	NON-EXEMPT	12/19/1978		6/9/1982	92	1250	YES	X			
613409	3454241102A	A170190068AB AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	500	369	24	NON-EXEMPT	4/10/1978		6/9/1982	179	500	YES				
614306	A180190100DA	AZ STATE LAND DEPT.	EXEMPT	100	0	9	EXEMPT	1/4/1968		6/14/1982	0	0	NO				
614948	A17020010CDA	JORDAN AUTOBEE	NON-EXEMPT	200	40	6	NON-EXEMPT	1/4/1940		6/14/1982	60	100	NO				
627252	A17020006AAC	ATCHISON-TOPEKA	NON-EXEMPT	80	80	6	NON-EXEMPT	3/27/1940		6/10/1982	0	0	NO				
632667	3457261102A	A18019016000 JOSEPH CITY WATER	NON-EXEMPT	500	300	10	NON-EXEMPT	1/17/1942		5/13/1982	70	300	NO	X			
634143	A17020010D0D	TERMAND D	NON-EXEMPT	103	18	8	NON-EXEMPT	3/1/1968		6/21/1982	13	110	NO				
641097	A17020007CCC	KILEY AND ABIE REIDHEAD	EXEMPT	220	10	6	EXEMPT	4/15/1982		120	0	NO	X		X		
650086	A18019022ABC	LANEJE	NON-EXEMPT	750	750	10	NON-EXEMPT	7/14/1982		50	200	YES	X				
801484	A17020009AAD	JOSEPH CITY IRRIG CO.	NON-EXEMPT	150	10	12	NON-EXEMPT	1/1/1938									
806203	3453041101A	A17020011C00 SEVENTH DAY ADVENT.	NON-EXEMPT	220	90	12	NON-EXEMPT	12/31/1971		11/25/1991	37	150	NO				
808706	A17020010BCC	DON E GR JUANNE E HUNSAKER	EXEMPT	100	30	6	EXEMPT	1/1/1972		11/3/2004		NO					
809311	A17020012ADD	JASON & CRISTAL CASTILLO	EXEMPT						1/26/2009		NO						
810061	A17020010CDD	RICK & TWYLA TAYLOR	EXEMPT	200	200	6	EXEMPT	4/8/2019		70	25	NO					
905034	A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO						
905038	A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO						
907561	A18019026CCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	8	MONITOR	8/7/2007		35	NO		X				
907562	A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	251	250	5	MONITOR	8/7/2007		35	NO		X				
907563	A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	907	500	9	MONITOR	8/7/2007		66	NO		X				

540671		AI18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N						
541134	345511101S	AI18020031ACC	KEPPTON, CARL	EXEMPT	160	100	6		11/8/1993	10/20/1993	115	0	NO	C	X				
542084		AI18019030CDD	AFS	MONITOR	46	45	4		1/9/1995	12/30/1994	25	0	NO	N	X				
547035		AI18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4		1/30/1995	1/30/1995	25	0	NO	A	X				
553269		AI18020090CCC	AZ PUBLIC SERVICE	MONITOR	45	45	4		12/19/1995	11/30/1995	9	0	NO	N	X				
557865		AI18020030CBA	LUCAS AND GRAVES DEVELOPMENT, INC	EXEMPT															
573258		AI18018010ABC	THE CAROL A SHIFF REVOCABLE TRUST	EXEMPT	280	233	8			2/24/1999	83	NO			X				
577823		AI17020007CDB	JOHN DR JOANN MYERS	EXEMPT						1/27/1998		NO							
578292		AI18018010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO							
578293		AI18018010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO							
578295		AI18018010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO							
578296		AI18018010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO							
578295		AI18018010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999		NO							
579544		AI18020030CDB	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2		3/23/2000	2/8/2000	37	NO			X				
582887		AI18020030CDB	ARIZONA PUBLIC SERVICE	MONITOR						8/15/2000		NO							
592778		AI18018010CCC	JACKRABBIT TRADING POST	MONITOR	25					5/28/2002		NO	A						
600242		AI17020010ACD	SHUMWAY, DREW	NON-EXEMPT	150	10	8			10/7/1981	3	200	NO	N	N				
600375	3454451101S	AI180190330AA	AZTEC LAND CO. LLC	EXEMPT	100	40	6		9/28/1986	6/10/1986	20	12	NO	N	N				
602960		AI17020010DAB	HEWARD J	EXEMPT	100	20	8		1/1/1940	2/17/1982	8	30	NO						
602962		AI17020080ACA	J S FARMS, INC A COLORADO CORP	NON-EXEMPT	200	20	10		1/1/1940	2/17/1982	1	200	NO						
603167		AI17020010CAB	MICHAEL & ERNESTINE KAFFER	NON-EXEMPT	150	20	8		1/1/1950	2/18/1982	30	350	NO						
606495		AI17020078BC	HILDEBRAND, R E	NON-EXEMPT	400	8	12		6/32/1973	4/26/1982	67	374	YES						
613125		AI18019026ABD	AZ PUBLIC SERVICE	EXEMPT	45	0	2			6/10/1982	24	0	NO						
613145		AI18019026CBB	AZ PUBLIC SERVICE	EXEMPT	570	0	0			1/1/1959	30	0	NO						
613150		AI18019035BDB	AZ PUBLIC SERVICE	EXEMPT	57	50	6			8/28/1973	45	0	NO						
613171		AI18019023AAA	AZ PUBLIC SERVICE	EXEMPT	292	277	2			6/10/1982	74	0	NO						
613183		AI18019013CCA	AZ PUBLIC SERVICE	EXEMPT	70	43	1			3/8/1979	40	0	NO						
613184		AI18019013CCA	AZ PUBLIC SERVICE	EXEMPT	50	28	1			3/7/1979	32	0	NO						
613188		AI18019013CCC	AZ PUBLIC SERVICE	EXEMPT	55	21	1			6/10/1982	21	0	NO						
613195		AI18020030CDB	AZ PUBLIC SERVICE	EXEMPT	77	57	1			6/10/1982	38	0	NO						
613197		AI18020030CDA	AZ PUBLIC SERVICE	EXEMPT	92	52	1			6/10/1982	70	0	NO						
613202		AI18020030DDA	AZ PUBLIC SERVICE	EXEMPT	50	28	1			4/7/1979	0	31	NO						
613213		AI18020030CBA	AZ PUBLIC SERVICE	EXEMPT	120	88	1			5/19/1979	55	0	NO						
613214		AI18020030CBA	AZ PUBLIC SERVICE	EXEMPT	120	88	1			5/16/1979	96	0	NO						
613219		AI18019030CCC	AZ PUBLIC SERVICE	EXEMPT	103	81	1			4/18/1979	80	0	NO						
613407	3454151101S	AI18020050BDA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	488	279	24			11/21/1978	64	895	NO		X				
613418		AI18019035DDO	AZTEC LAND & CATTLE CO LTD	EXEMPT	560	120	11			12/31/1977	69/1982	65	0	NO	X	X			
627200		AI17019012CDD	ALVIN H & DARSEL MINTER	NON-EXEMPT	460	10	12			2/9/1986	92	525	YES						
629415		AI17020010DDD	DAVID & DEBBIE SHUMWAY	NON-EXEMPT	200	20	12			1/1/1970	6/25/1982	40	500	NO					
638800		AI17020090BDB	HARREL, JIM	EXEMPT	0	0	0			6/14/1982	0	0	NO						
650048		AI17020007DAA	JEFFERY M BALOO	EXEMPT	250	12	10			8/22/1973	50	35	NO						
650137		AI17020010CBB	DAVID C & TAMMY M HAGER	EXEMPT	200	6	8			6/16/1982	45	30	NO						
905283		AI18019017BDD	POOLEY AND PATRICK POOLEY	EXEMPT	0	0	0			11/1/1980	0	0	NO						
905037		AI18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR						6/16/2006			NO						
907167		AI18019023DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT						6/11/2007		YES							
907659		AI17020010DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	510	500	21			8/23/2007	129	NO		X					
907834		AI17020002CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5			9/21/2007	90	NO		X					
907883		AI17019002ADD	ARIZONA PUBLIC SERVICE CO	MONITOR	360	80				9/28/2007		NO		X					
908486		AI18019016CBB	SPARTA INVESTMENTS	MONITOR	30	30				3/3/2008	25	NO		X					
909090		AI18019016CDD	THRIFTWAY MARKETING	MONITOR	32	30	2			5/29/2008	20	NO		X					
909098		AI18019016DCC	THRIFTWAY MARKETING	MONITOR	32	32				5/29/2008	20	NO		X					
909750		AI17020000ADA	ROBERT L SMITH	EXEMPT	160	160	5			9/28/2008	35	35	NO	X	X				
909803		AI18019009CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PLANT	MONITOR	510	510	2			11/2/2008	29	NO		X					
910010		AI18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5			12/4/2008	45	NO		X					
910011		AI18019026CBA	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8			11/6/2008	38	NO		X					
910013		AI18019025BDA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5			11/6/2008	34	NO		X					
910304		AI18019016CDB	ROSS ROGERS	MONITOR	30	30				1/25/2009	18	NO		X					
910314		AI18019016CDB	ROSS ROGERS	MONITOR	30	30				1/16/2009	18	NO		X					
910316		AI18019016CBB	ROSS ROGERS	MONITOR	32	32	4			3/16/2009	18	NO		X					
910320		AI18019016CDB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009	18	NO		X					
912635		AI17019022DAA	JESSIE AARIN BLINK	EXEMPT	363	100	6			10/18/2010	83	NO		X					
916857		AI17020010CDB	DAVID & DEBBIE SHUMWAY	EXEMPT						5/1/2014			NO						
917600		AI18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	60	2			12/9/2014	30	NO	A		X				
918640		AI18019025ADD	ARIZONA PUBLIC SERVICE	MONITOR	14	12	4			9/18/2015		NO		X					
918651		AI18019023AAB	ARIZONA PUBLIC SERVICE	MONITOR						9/11/2015		NO		X					
918701		AI18019023CDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	60	55	5			9/30/2015		NO		X					
921392		AI18019026BBD	ARIZONA PUBLIC SERVICE	OTHER	51	6				2/28/2018		NO		X					
922954		AI18019023CDD	ARIZONA PUBLIC SERVICE	MONITOR	86	70	4			5/10/2019	46	NO		X					
923204		AI18019015DCA	LOVES TRAVEL STOP AND COUNTRY STORES, INC	MONITOR						7/24/2019		NO		X					
924142		AI18019010DDD	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	OTHER						4/16/2020		NO		X					
925218		AI18020030CDB	ARIZONA PUBLIC SERVICE	OTHER	55	53	6			12/12/2020		NO		X					
925226		AI18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4			12/12/2020	40	NO		X					
926105		AI18019023ACC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	107	107				4/23/2021	29	NO		X					
926109		AI18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	88	88	2			5/14/2021	21	NO		X					
926110		AI18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	47	2			5/15/2021	20	NO		X					
926115		AI18020030CDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	54	54	6			4/22/2021	22	NO		X					
926388		AI18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC. IATTN: N	MONITOR	35	36	2			6/9/2021	24	NO		X					
926816		AI18019024BDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	65	65	4			9/5/2021	23	NO		X					
085087		AI17020010BDC	TURLEY, BRENT	EXEMPT	85	160	7			7/11/1980	18	380	NO		X				
085104		AI17020012ADA	JOHNSON W D	EXEMPT	200	68	5			9/24/1980	40	30	NO	X	X				
085748		AI18019022ACC	RANDALL D S	EXEMPT	365	365	8			8/29/1980	74	0	NO						
086111		AI18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0			10/29/1980	0	0	NO		X				
086144		AI18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14			9/24/1997	25	0	NO	A					
086145		AI18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14			9/24/1997	25	0	NO	A					
086148		AI18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14			9/24/1997	25	0	NO	A					
211590		AI18020033BDD	RANDALL D TURLEY	EXEMPT	250	137	7			3/24/2006	100	NO	X		X				
212756		AI18020033CDA	WILLIAM WIEGAND	EXEMPT	160	93	5			7/30/2006	70	13	NO	X	X				
215330		AI18018010DAA	JACKRABBIT TRADING POST	MONITOR	30	29	5			4/24/2007	19	NO		X					
217762		AI18019016CCA	DELVIN OR EVELYN SOLOMON	NON-EXEMPT	400	400	8												

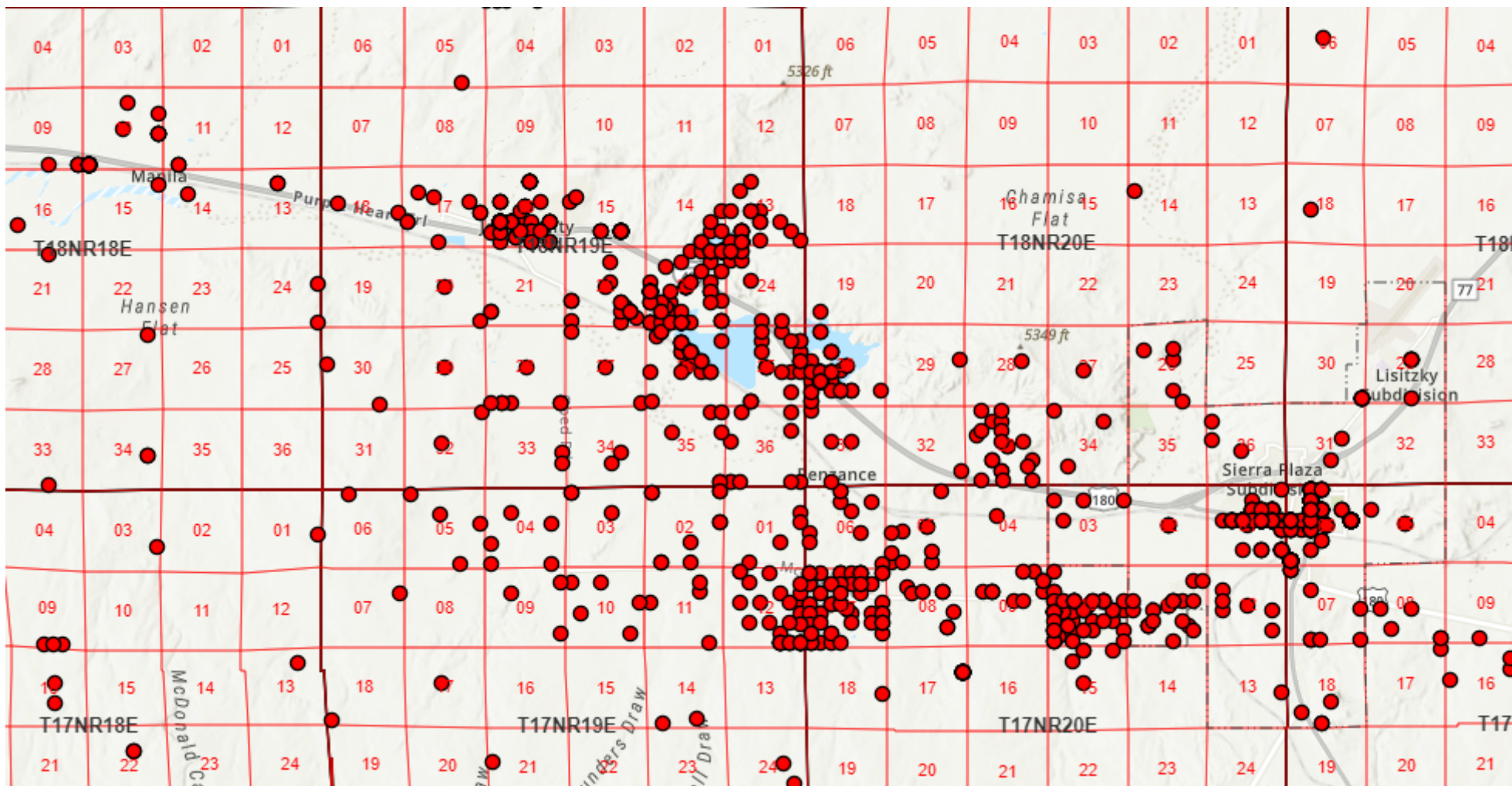
593169		A1801903408C	MILTON H DESPAIN	EXEMPT	115	50	6	9/7/2002		6/20/2002	43		NO				X	
593851		A18019016CAC	HARTLEY TURLEY	MONITOR						7/30/2002			NO				A	
601745		A17000100DA	RIC C TAYLOR	EXEMPT	150	20	6	3/13/1978		9/18/1981	50		30	NO				
601814	3457331102	A18019018DA	PORTER, H D	NON-EXEMPT	322	250	8			1/18/1982	20		10	NO				
602176		A170000080D	COOPER & SHEALYNN REIDHEAD	NON-EXEMPT	136	48	8	1/1/1980		2/14/1982	21	200	NO					Ownership changed from Simmer, A D to Cooper & Shealynn Reidhead
602964		A170000080A	H & F ZAMORA, INC. A COLORADO COOP	NON-EXEMPT	150	20	6	1/1/1980		2/17/1982	1	100	NO					
604273		A170000078C	ROY WHITE	NON-EXEMPT	175	121	8	7/1/1979		3/4/1982	82	100	YES					
604646		A180200338CD	PARISH, D	NON-EXEMPT	250	80	8	11/28/1973		3/12/1982	67	60	NO					
604680		A170000100A	NON-EXEMPT	60	40	12		1/1/1985		3/11/1982	10	1000	YES					
604691	3453101012	A170000100A	HOLBROOK CITY OF,	NON-EXEMPT	50	30	12	1/1/1985		3/11/1982	10	450	NO					
606476		A170000100CB	JEFFERS, J C	NON-EXEMPT	0	0	0			4/30/1982	0	0	NO					
606478		A17000011CAB	JEFFERS, J C	NON-EXEMPT	200	0	0	1/1/1983		4/30/1982	0	300	NO					
609578		A170000078C	PERDUE, JOHNNY E	NON-EXEMPT	400	10	12	1/1/1970		5/14/1982	90	700	YES					
613092	3452511101	A170190100DB	AZ PUBLIC SERVICE,	NON-EXEMPT	550	38	24	2/1/1977		6/10/1982	100	450	YES					
613093	3452611001	A18019028CDC	AZ PUBLIC SERVICE,	NON-EXEMPT	245	58	12	10/27/1978		6/10/1982	14	800	YES				X	
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0			6/10/1982	0	0	NO					
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0			6/10/1982	2	0	NO					
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0			6/10/1982	16	0	NO					
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978		6/10/1982	54	0	NO					
613173		A180190348BB	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/22/1979		6/10/1982	19	0	NO					
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979		6/10/1982	18	0	NO					
613190		A180190248BB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979		6/10/1982	0	0	NO					
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979		6/10/1982	5	0	NO					
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	32	1	4/6/1979		6/10/1982	0	0	NO					
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979		6/10/1982	11	0	NO					
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/12/1979		6/10/1982	21	0	NO					
613400	3454131101	A17019003ACB	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	260	24	7/17/1974		6/9/1982	105	638	YES			X	X	
613404	3454441101	A18019033DAD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	410	269	24	10/26/1977		6/9/1982	26	600	YES					
613411	3453541101	A17019001DBD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	500	400	24	4/1/1977		6/9/1982	65	450	YES					
614075		A170000080D	JUAN BARRERA	NON-EXEMPT	350	60	10	4/1/1975		5/29/1982	65	395	YES					
618963		A1700007ABA	NEWTON, F E	EXEMPT	135	7	12	4/1/1975		6/11/1982	4634	14000	NO					
620358		A17020010CBA	FERGUSON, J	NON-EXEMPT	100	22	12			6/14/1982	22	600	NO					
622735	3453131101	A17020011ADC	DAVIS, L W	NON-EXEMPT	0	0	8	1/1/1982		5/19/1982	0	50	NO					
637905		A180200338CA	HOLYOAK, J	EXEMPT	170	40	6	3/19/1980		6/14/1982	100	35	NO					
638034		A18020031BDC	HUNT, D	EXEMPT	130	40	9	10/20/1980		6/14/1982	33	25	NO					
642511		A18019011CCD	HANSEN BROTHERS	EXEMPT	810	210	11	11/17/1978		6/8/1982	33	0	NO				X	
644029		A180200338DA	EVELYN CAROLE USSHER	EXEMPT	400	125	8	7/14/1972		5/18/1982	101	30	NO					
645218		A170200110BD	NASH, A F	EXEMPT	0	0	0			6/8/1982	0	0	NO					
645395		A1701901280D	CATHLEEN MILCHAM	EXEMPT	0	8	12			6/4/1982	89	0	NO					
648182		A170000100CB	JOSEPH THOMAS SANTOS	EXEMPT	125	27	8	9/21/1979		6/14/1982	60	35	NO					
802073		A170200110CC	OWENS, E J	NON-EXEMPT	170	70	8	9/15/1979		3/14/1985	90	250	NO					
803003		A17020010CBA	WESTERN SAVINGS	EXEMPT	0	0	0			9/17/1985	0	0	NO					
806201		A170000110DD	SEVENTH DAY ADVENT.	NON-EXEMPT	250	90	12	12/7/1973		11/25/1991	35	500	NO					
806202		A17020011C00	SEVENTH DAY ADVENT.	NON-EXEMPT	200	0	10			12/31/1945	35	100	NO					
808212	3454521102	A18018034DAB	BRYAN & CASSY DE JOLLEY	NON-EXEMPT						8/9/2001			NO					
907679		A18019016C8D	SPARTA INVESTMENTS	MONITOR	31	30	8	8/21/2007			25		NO				X	
907990		A17019002ADD	ARIZONA PUBLIC SERVICE CO	OTHER	360	8				10/9/2007			NO				X	
908367		A17019002DCC	ARIZONA PUBLIC SERVICE	MONITOR	505	500	5	1/18/2008			90		NO			X		
909087		A180190168CD	THRIFTWAY MARKETING	MONITOR						5/23/2008			NO					
909093		A180190168CD	THRIFTWAY MARKETING	MONITOR	20	20	2	5/23/2008			5		NO			X		
909106		A180190168CD	THRIFTWAY MARKETING	OTHER	18	18	2	5/23/2008			5		NO			X		
910280		A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009		1/15/2009	18		NO			X		
910286		A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009		1/15/2009	18		NO			X		
910287		A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009		1/15/2009	18		NO			X		
910305		A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009		1/15/2009	18		NO			X		
913789		A180190258AA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30	1	11/12/2011			28		NO			X		
917009		A18019023DCC	APS - CHOLLA POWER PLANT	OTHER						6/4/2014			NO			A	X	
918639		A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015					NO			X		
918641		A18020030CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/18/2015					NO			X		
921042		A180190200DB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/9/2012			60		NO			A	X	
923205		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR						7/24/2019			NO					
925219		A18020030000	ARIZONA PUBLIC SERVICE	OTHER						12/2/2020			NO					
925229		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021					NO				X	ADWR records sent to APS in 2021 Q3
926814		A180190248BB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	69	3	9/5/2021			62		NO				X	
927464		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/10/2021					NO				X	Drill Records in ADWR Database as of 01/2023
927465		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/28/2021					NO				X	Drill Records in ADWR Database as of 01/2023
929528		A18019028000	AZTEC LAND & CATTLE COMPANY	OTHER				1/28/2023					NO					Drilling card has been filed and expires on 12/28/2024. No evidence of well completion

NO

1 Well ownership changed
 2 Well Registry No. but well has been drilled yet
 3 Well Registry No. and well has been drilled
 4 Well Registry No. and well has been drilled

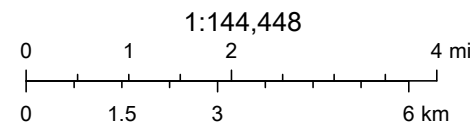
Data downloaded from ADWR Wells ID database 02/04/2023

ADWR_Registry Review_05162023_2



May 5th, 2023

- Well_Registry
- Section
- City Boundaries
- Township



Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, Earthstar Geographics




Registry No. (55)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Application Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received	Notes from WSP
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0			10/29/1980	0	0	NO		
086142		A18019023CB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14		1/1/1980	9/24/1997	25	0	NO	A	
086146		A18019023CB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14		1/1/1980	9/24/1997	25	0	NO	A	
086152		A18019023CB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14		1/1/1980	9/24/1997	0	0	NO	A	
086184		A18020033CAC	EGBERT A	NON-EXEMPT	165	75	6		1/1/1980	9/24/1997	65	0	NO		
226669		A18019010CCC	ANTONIO & CYNTHIA JAQUEZ	MONITOR						12/7/2016					
233179		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER											App date 10/18/2020
233180		A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER											App date 10/18/2020, marked as denied
233713		A180190160CB	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2		2/22/2021	1/27/2021					
500712		A17020003CB	NEWMAN AND JESSICA JOHN	EXEMPT	215	80	5		9/14/1981	8/17/1981	0	0	NO	C	X
500726		A17020003CB	JOHN HARDY	EXEMPT	195	80	5		8/14/1981	8/14/1981	49	75	NO	X	X
503984		A18020033DAC	SCHADE J	EXEMPT	200	201	6		10/14/1982	9/21/1982	0	0	NO	X	X
505634	34531121012	A17020010ACC	HOLBROOK, TOWN OF	NON-EXEMPT	105	87	12		7/1/1983	6/14/1983	13	1450	YES	X	X
506369		A18019023AAC	AZ PUBLIC SERVICE	EXEMPT	39	0	0		10/26/1983	9/23/1983	0	0	NO	N	X
510154		A17020010CB	RISDONNETTE & SMITH	EXEMPT	98	40	6		6/6/1985	12/28/1985	33	15	NO	X	X
519760		A17020007ABD	MEGGAN P MURPH	EXEMPT	150	32	6		7/10/1988	12/1/1987	35	20	NO	X	X
521468		A17019012BBA	MAXWELL MYRON	EXEMPT	200	67	6		5/12/1989	6/14/1988	75	12	NO	X	X
527040		A17019012DDC	MYERS, JOHN JR,W	EXEMPT	0	0	0			1/31/1990	0	0	NO		
527045		A17019012DDC	MYERS, JOHN JR,W	EXEMPT	0	0	0			1/31/1990	0	0	NO		
527046		A17019012DDC	MYERS, JOHN JR,W	EXEMPT	0	0	0			1/31/1990	0	0	NO		
527279		A180200268CA	HOLBROOK, TOWN OF	NON-EXEMPT	0	0	0			3/2/1990	0	0	NO	N	
529605		A180190160CB	RADIAN CORP.	MONITOR	15	10	2		5/29/1991	5/20/1991	13	0	NO	N	X
529607		A180190160CB	RADIAN CORP.	MONITOR	15	10	2		5/28/1991	5/20/1991	13	0	NO	N	X
533819		A18019013CCD	AZ PUBLIC SERVICE	MONITOR	0	0	0			11/26/1991	0	0	NO	N	
539111		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	0	NO		
539112		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	0	NO		
539117		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	0	0	0			5/12/1993	0	0	NO		
539864		A18019013CCD	AZ PUBLIC SERVICE	EXEMPT	40	40	5		7/24/1993	7/12/1993	25	0	NO	X	
540040		A180190160CC	RADIAN CORP.	MONITOR	20	20	4			8/17/1993	14	0	NO	N	X
540668		A18019023CCD	AZ PUBLIC SERVICE	MONITOR	45	45	4		9/23/1993	9/15/1993	23	0	NO	N	X
540672		A18019023CCD	ARIZONA PUBLIC SERVICE	MONITOR	45	45	4		9/23/1993	9/23/1993	18	0	NO	A	X
558423		A17020010CCC	FERGUSON, MICHAEL	NON-EXEMPT	205	20	6		11/3/1996	6/17/1996	57	0	NO	C	X
562330		A18019010CCC	JAQUEZ JR, ANTONIO	MONITOR	0	0	0			4/22/1997	0	0	NO	A	
573582		A17020068BA	BOYD, WESTOVER	EXEMPT						3/4/1999					
578287		A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999					
578299		A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999					
578301		A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999					
578302		A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999					
579541		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2		3/28/2000	2/8/2000	27	NO		X	
583854		A17020010BAA	KEWETH H EDINGER	EXEMPT	160	60	6		10/11/2000	5/18/2000	49	NO	X	X	
592776		A18019010CCC	JACKRABBIT TRADING DIST	MONITOR	25	25				5/28/2002					
592861		A18019017CCD	JOSEPH CITY SANITARY DISTRICT	MONITOR	30	30	6		8/5/2003	7/1/2003	6	NO	X		
600208	34530211012	A17020010CAC	SHUMWAY, DREW,	NON-EXEMPT	200	20	12		1/1/1940	10/7/1981	30	600	NO	N	N
600243		A17020010CAC	SHUMWAY, DREW,	NON-EXEMPT	150	8	8		1/1/1950	10/7/1981	3	200	NO	N	N
600251		A17020009ABA	SHUMWAY, DREW,	NON-EXEMPT	350	20	8		2/21/1974	10/7/1981	100	300	YES	N	N
600255	34531141012	A17020010ACD	SHUMWAY, DREW,	NON-EXEMPT	150	10	8		1/1/1940	10/7/1981	3	100	NO	N	N
600374		A17018010DAA	AZTEC LAND & CATTLE,	EXEMPT	180	60	6		5/15/1946	9/28/1981	160	5	NO	N	N
604008		A18020030CB	AZ PUBLIC SERVICE	NON-EXEMPT	235	100	10		8/25/1964	8/25/1964	100	150	NO		
604526		A17020011000	BRIGHAM YOUNG UNIV,	NON-EXEMPT	0	0	0		9/5/1961	3/10/1982	0	0	NO		
605141		A18020010B8C	MC LAWS,W	NON-EXEMPT	100	221	5		1/1/1965	3/22/1982	12	100	NO		
605469	3454471013	A18020033CDA	WILLIAM WIEGAND	NON-EXEMPT	208	208	6		12/31/1946	4/2/1982	165	120	NO	A	
606488		A17020011000	DARR, F R	NON-EXEMPT	125	25	6		1/1/1960	4/26/1982	26	50	NO		
606724		A1702000800D	J-S FARMS, INC.	EXEMPT	0	0	0			5/3/1982	0	35	NO		
607766		A17019012DDC	MYERS, JOHN JR,W	NON-EXEMPT	460	10	12		1/1/1960	5/7/1982	92	525	NO		
607768		A17020007BDC	JOHN W. MYERS, JR.	NON-EXEMPT	150	51	6		11/1/1976	5/7/1982	47	100	NO		
609540		A18019010CCC	NEAL, T R	NON-EXEMPT	200	0	8			3/25/1982	0	500	NO		
613089	3454341013	A18019030CCC	AZ PUBLIC SERVICE	NON-EXEMPT	350	55	10		12/1/1981	6/10/1982	27	950	YES	X	
613128		A180190268AB	AZ PUBLIC SERVICE	EXEMPT	10	0	0			6/10/1982	1	0	NO		
613153		A180190260AB	AZ PUBLIC SERVICE	EXEMPT	92	80	6		9/4/1973	6/10/1982	40	0	NO		
613155		A17019012BBA	AZ PUBLIC SERVICE	EXEMPT	0	0	0			6/10/1982	0	0	NO	A	
613176		A18019014DAC	AZ PUBLIC SERVICE	EXEMPT	80	53	1		8/21/1979	6/10/1982	77	1	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	57	25	1		3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE	EXEMPT	53	28	1		2/26/1979	6/10/1982	33	0	NO		
613192		A18019023ABA	AZ PUBLIC SERVICE	EXEMPT	190	27	1		2/27/1979	6/10/1982	12	0	NO		
613199		A18019023ADA	AZ PUBLIC SERVICE	EXEMPT	112	32	1			10/10/1982	97	1	NO		
613206		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	60	38	1		3/27/1979	6/10/1982	0	0	NO		
613208		A18020030CDA	AZ PUBLIC SERVICE	EXEMPT	60	38	1		3/27/1979	6/10/1982	0	0	NO		
613212		A18020030CB	AZ PUBLIC SERVICE	EXEMPT	51	29	1		4/5/1979	6/10/1982	18	0	NO		
613218		A18020030B8C	AZ PUBLIC SERVICE	EXEMPT	100	79	1		5/12/1979	6/10/1982	59	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE	EXEMPT	50	28	1		4/4/1979	6/10/1982	21	0	NO		
613406	34525611019	A17019009DDA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	550	319	24		12/20/1977	6/9/1982	126	1250	YES		
613410	34532311017	A17019011ACA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	530	319	24		7/1/1977	6/9/1982	82	800	YES		
613425		A17019025ADD	AZTEC LAND & CATTLE CO LTD	EXEMPT	845	112	10		8/21/1978	6/9/1982	42	0	NO	A	X
618962		A17020007ABA	BRUCE & CHELSE GERMAIN	NON-EXEMPT	135	7	12		4/1/1975	6/11/1982	46	97	YES		Ownership changed in July, 2023
620359		A17020010CBA	FERGUSON, E J	NON-EXEMPT	100	15	10		1/1/1968	6/14/1982	22	400	NO		
627202		A17019012DDC	ALVIN H & DARSEL MINTER	NON-EXEMPT	250	10	7		12/12/1976	2/9/1982	74	100	NO		
638564		A1702001000	EDWIN & BRENDA BURROUGHS	NON-EXEMPT	250	35	6		6/21/1982	6/21/1982	65	65	YES		
631391		A17020007B8B	PAGE, FRANK L	EXEMPT	175	48	6		1/12/1980	3/23/1982	155	25	NO		
634414		A17020010ACD	TERMAIN, D	NON-EXEMPT	100	10	8		4/1/1975	6/21/1982	8	100	NO		
650924	34531101012	A17020010CBA	PAJUSELL, L	EXEMPT	85	45	6		1/1/1964	6/30/1982	19	0	NO		
650787		A17020010CCD	COOLEY, R	EXEMPT	100	6	3		3/1/1971	6/17/1982	50	0	NO		
801482		A17020009AAD	JOSEPH CITY IRRIG CO,	NON-EXEMPT	150	10	12		1/1/1984	5/17/1984	0	200	NO		
903874		A17020003AAD	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	30	30	2		12/20/2005	12/20/2005	10	NO	A	X	
905036		A180190160CA	SPARTA INVESTMENTS, INC.	MONITOR						6/16/2006					
906363		A18019030BDC	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT						2/1/2007					
906365		A180190368BA	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	470	17		8/11/2007	2/1/2007	34	YES	X		
909091		A18019016CB	THRIFTWAY MARKETING	MONITOR	32	30	2		5/28/2008	5/23/2008	20	NO	X		
909605		A180190160AC	THRIFTWAY MARKETING	MONITOR	32	30	2		5/29/2008	5/29/2008	20	NO	X		
909987		A180200388BA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PL	MONITOR	290	280	5		11/18/2008	10/30/2008	140	NO	X		
909988		A180200388BA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PL	MONITOR	385	380	5		11/18/2008	10/30/2008	140	NO	X		
910007		A18019025CDC	ARIZONA PUBLIC SERVICE CO	MONITOR	60	10	10		11/21/2008	11/21/2008	30	NO	X		
910008		A18019026DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	90	65	5		11/22/2008	11/6/2008	30	NO	X		
910249		A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	22					1/9/2009					
910278		A18019016CB	ROSS ROGERS	MONITOR	32	32	4		1/21/2009	1/21/20					

925728	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021	6	NO			X	ADWR records sent to APS in 2021 Q3		
925730	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	35	36	2		3/11/2021	6	NO			X	ADWR records sent to APS in 2021 Q3		
926188	A1801902ZDBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	67	48	4	4/29/2021	4/23/2021	37	NO			X			
926190	A1802003BCE	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	27	19	2	5/3/2021	5/3/2021	4	NO			X			
926812	A18019024BBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	31	30	6	9/5/2021	9/5/2021	12	NO			X			
928235	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC (CHRIS W	MONITOR	15	15	2	6/8/2022	6/1/2022	9	NO			X	ADWR Records sent to APS in 2022 Q4		
932922	A18019016BDG	THRIFTWAY MARKETING CORPORATION	OTHER					7/10/2022		NO					Driller Card Issued - no evidence of well installation as of 2023 Q3	
986153	A18019032BEB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	45	45	14	1/1/1980	9/24/1987	45	0	NO	A				
205717	A1801902ZDBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004		NO						
207948	A1702005CCC	MARIBEL LUNA	EXEMPT	160	54	6	7/18/2005	6/20/2005	46	NO			X			
220453	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/9/2011	3/23/2011	42	NO			X			
221778	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/9/2012	11/9/2012	42	NO			X			
221780	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/7/2012	10/15/2012	42	NO			X			
231017	A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY -	MONITOR					8/26/2019		NO	A					
231177	A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER							NO						
231382	A17020016ABC	THRIFTWAY MARKETING CORPORATION	OTHER							NO						
231383	A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER							NO						
231386	A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER							NO						
231387	A18019016ABC	THRIFTWAY MARKETING CORPORATION	OTHER							NO						
232825	A18019023CDD	ARIZONA PUBLIC SERVICE	EXEMPT	247	148	7	12/16/2020	10/30/2020	22	NO			X			
238562	A18020030ACB	ARIZONA PUBLIC SERVICE	EXEMPT	113	112	4	5/23/2023	3/30/2023	24	NO			X		Construction info available - No drill report available Q3 2023	
502730	A17020007BBC	GERALD F BRIGGS	EXEMPT	160	57	5	8/20/1982	8/30/1982	90	0	NO	C	X			
503829	A17020010CCB	FRED & GAIL JOE	EXEMPT	200	200	0		8/26/1982	60	0	NO	X	X			
505119	A18019016DDC	RANDALL A BLAINE	NON-EXEMPT	450	280	12		4/5/1983	40	800	NO	X	X			
506368	A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X			
520217	A17020007CDD	YAZZIE ALFRED	EXEMPT	180	60	6	2/10/1989	2/9/1989	60	0	NO	C	X			
522728	A18020026CDD	HOLBROOK, TOWN OF	NON-EXEMPT	0	0	0		3/21/1990	0	0	NO	N				
527281	A18020026ACB	HOLBROOK, TOWN OF	NON-EXEMPT	300	300	6		3/23/1990	229	0	NO	N	X			
529606	A18019014DDC	RANDAN CORP	MONITOR	25	20	2	5/28/1991	5/20/1991	13	0	NO	N	X			
539109	A18020030CDD	AZ PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO	N				
539120	A18019013CDD	AZ PUBLIC SERVICE	MONITOR	20	10	2	5/19/1993	5/13/1993	1	0	NO	N	X			
539859	A18019013CDD	AZ PUBLIC SERVICE	EXEMPT	0	0	0		7/12/1993	0	0	NO	N				
539986	A18020031BBB	HUNT, BOYCE B	EXEMPT	130	30	61	9/7/1993	7/14/1993	105	0	NO	C	X			
540669	A18019023CDD	AZ PUBLIC SERVICE	MONITOR	0	0	0		9/15/1993	0	0	NO	N				
540670	A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N				
546245	A18019023CDD	APS	OTHER	187	187	6		10/28/1994	0	0	NO	N	X			
547033	A18019023CDD	APS	OTHER	25	0	0		8/9/1995	0	0	NO	N	X			
547038	A18019023CDD	APS	MONITOR	0	0	0		12/30/1994	0	0	NO	N				
562218	A18018010CCC	ANTONIO JAGUEZ JR	MONITOR	0	0	0		4/22/1997	0	0	NO	N				
562329	A18018010CCC	JAGUEZ JR, ANTONIO	MONITOR	0	0	0		4/22/1997	0	0	NO	A				
562332	A18018010CCC	ANTONIO JAGUEZ JR	MONITOR	25	25	2	4/16/1998	4/23/1998	15	2	NO	A	X			
569370	A17019003BBB	EL PASO NATURAL GAS CO, LLC - A KINDER MORGAN CO	OTHER	500	130	8	9/27/1998	6/19/1998			NO	A	X			
578284	A18018010CCC	ANTONIO JAGUEZ JR	MONITOR					11/19/1999			NO					
578294	A18018010CCC	ANTONIO JAGUEZ JR	MONITOR					11/19/1999			NO					
117545	A18020030CDD	ARIZONA PUBLIC SERVICE	MONITOR	104	90	2	3/20/2000	2/28/2000	90				X			
580114	A17020007BCC	BRYANT PETERSEN	NON-EXEMPT	205	55	6	5/12/2000	3/20/2000	621	27	NO	X	X			
582885	A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO					
588017	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001			NO	A				
592777	A18018010CCC	JACKRABBIT TRADING POST	MONITOR	25				5/28/2002			NO	A				
594036	A18018010CCC	JACKRABBIT TRADING POST	MONITOR	25				8/9/2002			NO	A				
600239	345421110121	A17020003BAD	SHUMWAY, DREW	NON-EXEMPT	500	65	12	1/1/1960	10/7/1981	31	400	NO	N	N		
600241	A17020010ACD	SHUMWAY, DREW	NON-EXEMPT	200	10	8	1/1/1960	10/7/1981	3	150	NO	N	N			
600247	345342110104	A17020003BAD	SHUMWAY, DREW	NON-EXEMPT	225	20	20	10/7/1981	150	3	150	NO	N	N		
600527	A18019016000	RANDALL A BLAINE	NON-EXEMPT	450	150	12	1/1/1958	12/14/1958	50	1200	NO	N	N			
601837	A17019012ABB	ALONZO & SHARI MC LAWS	NON-EXEMPT	400	10	12	1/1/1948	1/19/1982	69	220	YES					
602321	A18020033CDD	BLACK ROCK CONSTR.	NON-EXEMPT	225	45	8	7/20/1976	1/21/1982	40	400	NO					
602961	A17020008ACA	J-S FARMS, INC. A COLORADO CORP	NON-EXEMPT	150	20	8	3/15/1980	3/17/1982	1	150	NO	X	X			
603863	345314110111	A17020011ACC	HEYWOOD J	NON-EXEMPT	300	12	8/1/1964	8/1/1982	50	450	NO					
605470	A17020010BCC	MC LAWS, C L	NON-EXEMPT	100	0	8	7/1/1962	4/7/1982	8	0	NO					
605778	A17020005000	DEWITT, M	NON-EXEMPT	240	18	12	5/20/1974	3/31/1982	46	500	YES					
609959	A180200310DD	SCHADE, O L	NON-EXEMPT	150	130	6	1/1/1940	5/24/1982	0	0	NO					
613130	A18019024BDD	AZ PUBLIC SERVICE	EXEMPT	15	0	0		6/10/1982	15	0	NO					
613132	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	8	0	0		6/10/1982	2	0	NO					
613136	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	6	0	0		6/10/1982	1	0	NO					
613139	A18019026ACC	AZ PUBLIC SERVICE	EXEMPT	14	0	0		6/10/1982	12	0	NO	A				
613147	A18019026CDD	AZ PUBLIC SERVICE	EXEMPT	0	0	0		6/10/1982	0	0	NO					
613148	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO					
613149	345613110118	A18019026BBA	AZ PUBLIC SERVICE	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO				
613163	A18019024BBB	AZ PUBLIC SERVICE	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO					
613177	A18019013CAA	AZ PUBLIC SERVICE	EXEMPT	62	40	1	3/9/1979	6/10/1982	32	0	NO					
613179	A18019014CDD	AZ PUBLIC SERVICE	EXEMPT	67	38	1	3/11/1979	6/10/1982	41	0	NO					
613186	A18019013CCC	AZ PUBLIC SERVICE	EXEMPT	50	28	1	2/25/1979	6/10/1982	3	0	NO					
613194	A18020030CDD	AZ PUBLIC SERVICE	EXEMPT	56	41	1		6/10/1982	17	0	NO					
613200	A18019025AAD	AZ PUBLIC SERVICE	EXEMPT	112	32	1		6/10/1982	117	0	NO					
613211	A18020030CDD	AZ PUBLIC SERVICE	EXEMPT	70	43	1	4/6/1979	6/10/1982	58	0	NO					
613222	A18019025ADD	AZ PUBLIC SERVICE	EXEMPT	50	28	1	4/3/1979	6/10/1982	13	0	NO					
613399	345315110118	A170190118BC	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	340	260	24	10/15/1974	6/9/1982	94	1250	YES				
613403	345411110116	A17019001ADA	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	390	278	24	11/1/1976	6/9/1982	39	700	YES	X			
613415	A17019001ADD	AZTEC LAND & CATTLE CO LTD	EXEMPT	755	50	10	1/1/1977	6/9/1982	45	0	NO					
613423	3453211101121	A17019007ADA	AZTEC LAND & CATTLE CO LTD	EXEMPT	555	141	10	1/1/1977	6/9/1982	92	0	NO				
613424	A18019032AAA	AZTEC LAND & CATTLE CO LTD	EXEMPT	854	136	11	8/1/1978	6/9/1982	25	0	NO					
613443	345611110211	A18019001ADD	AZTEC LAND AND CATTLE CO., LTD	EXEMPT	158	338	24	8/15/1978	6/9/1982	1	150	NO	X	X		
617195	A17020007000	BURRELL, J	NON-EXEMPT	290	16	8	3/1/1975	6/21/1982	8	60	YES					
620723	345410110115	A17020006DBA	JOSEPH CITY IRRIGATION COMPANY	NON-EXEMPT	300	240	14	4/17/2009	6/14/1982	19	744	YES	X	X		
621980	345327110115	A17020007BAD	MC LAWS, J R	NON-EXEMPT	200	10	10	6/14/1982	45	100	NO					
627201	A17019012CDD	ALVIN H & DARSEL MINTER	NON-EXEMPT	180	8	8	3/1/1966	2/9/1982	8	100	NO					
627238	A18019015AAD	TCHISON, TOPEKA	NON-EXEMPT	63	43	8	11/2/1941	6/17/1982	0	0	NO					
629256	345714110201	A18019016CCA	DELWIN OR EVELYN SOLOMON	NON-EXEMPT	425	0	10	6/17/1982	20	1000	YES	A				
630190	A17020007DBB	MC LAWS, G T	EXEMPT	400	0	14	4/1/1961	2/19/1982	90	2	NO					
638807	A17020009BDB	DAVE & CYNTHIA MOYA	NON-EXEMPT	0	0	15		6/14/1982	0	30	NO					
638808	A17020009BDB	MARVIN & KAREN MCLEMORE	EXEMPT	0	0	9		6/14/1982	0	9	NO					
641524	A180200338AA	MYERS, V W	EXEMPT	265	0	6		4/13/1982	140	0	NO					
801485	A17020009AAD	JOSEPH CITY IRRIG CO	NON-EXEMPT	150	10	12	1/1/1938	5/17/1984	0	0	NO					
810300	A18019031ADA	ARIZONA PUBLIC SERVICE CO.	EXEMPT	450	450	10	1/1/1947	12/8/2021	30	NO						
906205	A18019016DCA	SPARTA INVESTMENTS, INC	MONITOR					6/16/2006			NO					
906812	345433110116	A1801903														

910301	A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO				X	
910302	A18019016CDB	ROSS ROGERS	MONITOR	30	30		1/25/2009	1/15/2009	18	NO				X	
910306	A18019016CDB	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO				X	
910718	A17020003000	CITY OF HOLBROOK	OTHER	45			5/28/2009	5/28/2009	23	NO	A			X	
913771	A18019025DBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				11/11/2011	11/3/2011		NO				X	
913984	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012		NO				X	
913993	A180190130DD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012		NO				X	
917515	A18019022DD	BNSF RAILWAYS	OTHER	100		8	11/4/2014	11/6/2014	24	NO	A			X	
918535	A17020007ABD	SHERA LOUISE WAHL	EXEMPT	180	180	8	8/31/2015	8/14/2015	35	NO				X	
918648	A180190138CA	ARIZONA PUBLIC SERVICE	MONITOR	420	415	5	11/13/2015	9/11/2015	195	NO				X	
919328	A17020009ACC	DOREN JOHNSON	EXEMPT	290	290	6	11/3/2016	4/4/2016	40	30	NO	X		X	
919787	A18019023BEC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/29/2016	8/11/2016	40	NO				X	
922299	A18019025DAB	ARIZONA PUBLIC SERVICE	MONITOR	25	19	4	11/14/2018	11/7/2018	14	NO				X	
923206	A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR					7/24/2019		NO				X	
923618	A180190248BB	ARIZONA PUBLIC SERVICE	MONITOR	53		3	11/19/2019	11/18/2019		NO				X	
923973	A17020003000	ARIZONA PUBLIC SERVICE	OTHER	40			3/2/2020	3/2/2020		NO	A			X	
926099	A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	130	130	6	5/13/2021	4/22/2021	4	NO				X	
926104	A18019023CAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	64	64	4	5/1/2021	4/22/2021	35	NO				X	
926240	A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	51	47	6	5/15/2021	5/14/2021	10	NO				X	
927469	A18019025AAD	ARIZONA PUBLIC SERVICE	OTHER					12/10/2021		NO				X	
927466	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/7/2021	12/28/2021		NO				X	
086112	A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0	10/29/1980	10/29/1980	0	0	NO			X	
087057	A17020007BCA	SARAH V. HANCOCK	EXEMPT	175	60	6	6/27/1981	8/1/1981	85	0	NO	X		X	
215527	A18019013DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/25/2007	3/20/2007	19	NO				X	
215541	A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38	NO				X	
220206	A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER					10/15/2010		NO				X	
220297	A17020010DAA	CITY OF HOLBROOK	NON-EXEMPT	200	41	16	5/13/2011	12/30/2010	20	1400	NO	X		X	
220454	A18019023DD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0		0	11/16/2011	3/21/2011	40	NO				X	
231035	A18019018CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY	MONITOR	30			8/24/2019	8/24/2019		NO	A			X	
238563	A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT	67	66	4	5/9/2023	3/30/2023	20	NO				X	
482393	A18019028CCD	ARIZONA PUBLIC SERVICE	NON-EXEMPT	220	148	7	12/16/2020	7/23/2020	22	NO				X	
501847	A17020010BDC	SHUMWAY DREW	EXEMPT	100	39	6	5/1/1983	4/15/1983	24	0	NO	C		X	
503847	A17020007CCC	EDWIN & BRENDA BURROUGHS	EXEMPT	200	79	8	5/8/1983	5/8/1983	37	0	YES	C		X	
506370	A18019023ADA	AZ PUBLIC SERVICE	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N		X	
506371	A18019023DAB	AZ PUBLIC SERVICE	EXEMPT	54	47	5	11/1/1983	9/21/1983	37	0	NO	N		X	
515770	A17020007BDD	YAZBE, ALFRED	NON-EXEMPT	200	80	0	11/7/1987	10/7/1987	54	3	NO	X		X	
516042	A18019017DAD	KANSAS CORNELIUS	NON-EXEMPT	175	60	4	13/4/1986	13/4/1986	42	20	NO	X		X	
518211	A17020007BBB	TERMAIN, DEBORAL	EXEMPT	200	40	6	3/17/1988	3/17/1988	39	0	NO	C		X	
527034	A17020007ABA	CHRISTOPHER & SHERA DUNSMORE	EXEMPT	150	30	6	4/30/1990	2/2/1990	45	0	NO	C		X	
527042	A17019012DD	MYERS, JOHN JR, W	EXEMPT	0	0	0		1/31/1990	0	0	NO			X	
527044	A17019012DD	MYERS, JOHN JR, W	EXEMPT	0	0	0		1/31/1990	0	0	NO			X	
527047	A17019012DDC	MYERS, JOHN JR, W	EXEMPT	0	0	0		1/31/1990	0	0	NO			X	
531124	A17020010BDC	SHUMWAY DREW,	NON-EXEMPT	275	20	14	5/28/1991	3/7/1991	12	750	NO	X		X	
533814	A18019013CCA	AZ PUBLIC SERVICE	MONITOR	62	62	5	1/27/1992	11/26/1991	4	0	NO	N		X	
533815	A18019013CCD	AZ PUBLIC SERVICE	MONITOR	0	0	0		11/26/1991	0	0	NO	N		X	
536056	A18020030CBA	AZ PUBLIC SERVICE	MONITOR	21	0	0	7/20/1992	7/16/1992	20	0	NO	N		X	
536059	A18020030CBA	AZ PUBLIC SERVICE	MONITOR	40	0	0	7/28/1992	7/16/1992	33	0	NO	N		X	
539103	A18020030CDB	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	A		X	
539106	A18020030CDB	ARIZONA PUBLIC SERVICE	EXEMPT	0	0	0		5/12/1993	0	0	NO	A		X	
540041	A18019016DCC	RADIAN CORP.	MONITOR	20	20	4	9/16/1993	8/17/1993	15	0	NO	N		X	
540042	A18019016DCA	RADIAN CORP.	MONITOR	20	20	4	9/16/1993	8/17/1993	13	0	NO	N		X	
546582	A17020010CBB	KENNETHA LEE	EXEMPT	250	250	6	12/28/1994	11/14/1994	57	0	NO	C		X	
547096	A18019023DAD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4		12/30/1994	25	0	NO	A		X	
547254	A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	95	0	0	6/12/1995	6/12/1995	0	0	NO	N		X	
548409	A17020007BAC	KEVIN DIPIAZZA	EXEMPT	145	54	6	7/18/1995	3/6/1995	60	18	NO	X		X	
552166	A18020033BBA	CLINTON HADDIX	EXEMPT	0	0	0		9/18/1995	0	0	NO	X		X	
552869	A17020003CBB	LOPEZ, ORGEL	EXEMPT	100	41	6	10/16/1995	10/16/1995	34	20	NO	X		X	
567466	A17020005CDB	FERNANDO AND ROBIN LEDEZMA	EXEMPT	130	431	6	11/4/1998	2/27/1998	50	NO				X	
578286	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999		NO				X	
578290	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999		NO				X	
578300	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999		NO				X	
578304	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR					11/19/1999		NO				X	
580185	A17020006BAA	BOYD L WESTOVER	EXEMPT	173	38	6	8/15/2000	3/16/2000	26	NO				X	
582886	A18020030CDB	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000		NO				X	
588000	A18019016CAC	HARTLEY TURLEY	OTHER					7/19/2001		NO				X	
588013	A18019016CAC	HARTLEY TURLEY	MONITOR	40	40	4	3/6/2002	7/19/2001	9	NO	A			X	
588015	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001		NO	A			X	
588018	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001		NO				X	
588021	A18019016CAC	HARTLEY TURLEY	MONITOR					7/19/2001		NO				X	
592674	A17020007BAA	BOBBIE C WRIGHT	EXEMPT	205	45	6	8/9/2002	5/20/2002	57	NO				X	
592774	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	30				5/28/2002		NO	A			X	
592775	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	25				5/28/2002		NO	A			X	
594039	A18019010CCC	JACKRABBIT TRADING POST	MONITOR	25				8/9/2002		NO	A			X	
594797	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER					9/27/2002		NO				X	
600248	34542011021	A17020003B8C	FUELCO TRAVEL CENTER,	NON-EXEMPT	495	60	10	3/15/1972	10/7/1981	27	300	NO	N		N
600253	A17020010BDC	SHUMWAY DREW,	NON-EXEMPT	200	10	12	10/18/1978	10/7/1981	20	400	NO	N		N	
600372	A17019012DAC	DAVID DESPAIN	NON-EXEMPT	300	71	6	2/14/1975	9/28/1981	50	100	YES	N		X	
600378	34532411021	A17020010BDC	DAVID & DEBBIE SHUMWAY	NON-EXEMPT	75	5	12	9/28/1981	18	100	NO	N		N	
604247	A17020013CBB	L GRANT BRINKERHOFF	NON-EXEMPT	0	0	0		6/24/1995	0	0	NO			X	
606477	A17020010CBB	JEFFERS, J C	NON-EXEMPT	150	0	0		4/30/1982	17	0	NO			X	
606725	A17020009DD	J-S FARMS, INC.	EXEMPT	0	0	0		5/3/1982	0	35	NO			X	
610660	A17020007DAD	JEAN GEORGE	NON-EXEMPT	250	9	9	3/10/1974	3/23/1982	49	75	YES			X	
613095	34541511020	A1701904BDE	AZ PUBLIC SERVICE	NON-EXEMPT	430	85	24	8/10/1978	30	900	YES	X		X	
613126	A18019026BAD	AZ PUBLIC SERVICE	EXEMPT	6	0	2		6/10/1982	2	0	NO			X	
613138	A18019026ACB	AZ PUBLIC SERVICE	EXEMPT	18	0	0		6/10/1982	0	0	NO			X	
613186	A18019024AAA	AZ PUBLIC SERVICE	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO			X	
613169	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	154	114	1		6/10/1982	29	0	NO			X	
613170	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	102	87	1		6/10/1982	27	0	NO			X	
613198	A18020030CDA	AZ PUBLIC SERVICE	EXEMPT	191	175	2		6/13/1982	69	0	NO			X	
613207	A18020030CDB	AZ PUBLIC SERVICE	EXEMPT	60	38	1	3/26/1979	6/10/1982	53	0	NO			X	
613220	A18019025AAD	ARIZONA PUBLIC SERVICE	EXEMPT	60			4/4/1979	6/10/1982	51	0	NO			X	
613412	34534210201	A17019005DCD	AZTEC LAND & CATTLE CO LTD	NON-EXEMPT	365	259	24	7/1/1978	6/9/1982	69	500	YES		X	
613413	A18019027B8B	AZTEC LAND & CATTLE CO LTD	EXEMPT	840	285	10	1/1/1977	6/9/1982	14	0	NO			X	
613414	A17019005B8B	AZTEC LAND & CATTLE CO LTD	EXEMPT	1020	282	10	1/1/1977	6/9/1982	111	0	NO			X	
613422	A18019023DCC	AZTEC LAND & CATTLE CO LTD	EXEMPT	670	288	10	6/12/1977	6/9/1982	71	0	NO			X	
617485	A17020011AAD	MYERS, J	NON-EXEMPT	100	100	12	1/1/1932	1/1/1932	11	100	NO			X	
618132	A17020010CBB	FARMERS HOME,	EXEMPT	150	150	6		6/9/1982	50	35	NO			X	
620360	A17020010CCC	WILSON, G	NON-EXEMPT	180	30	10	1/1/1974	6/14/1982	50	1000	NO			X	
620774	34573611020	A18019017ADC	JOSEPH CITY IRRIG CO,	NON-EXEMPT	425	275	13	6/14/1975	6/14/1975	51	200	YES		X	
628494	34572711020	A18019016000	JOSEPH CITY WATER,	NON-EXEMPT	460	3									

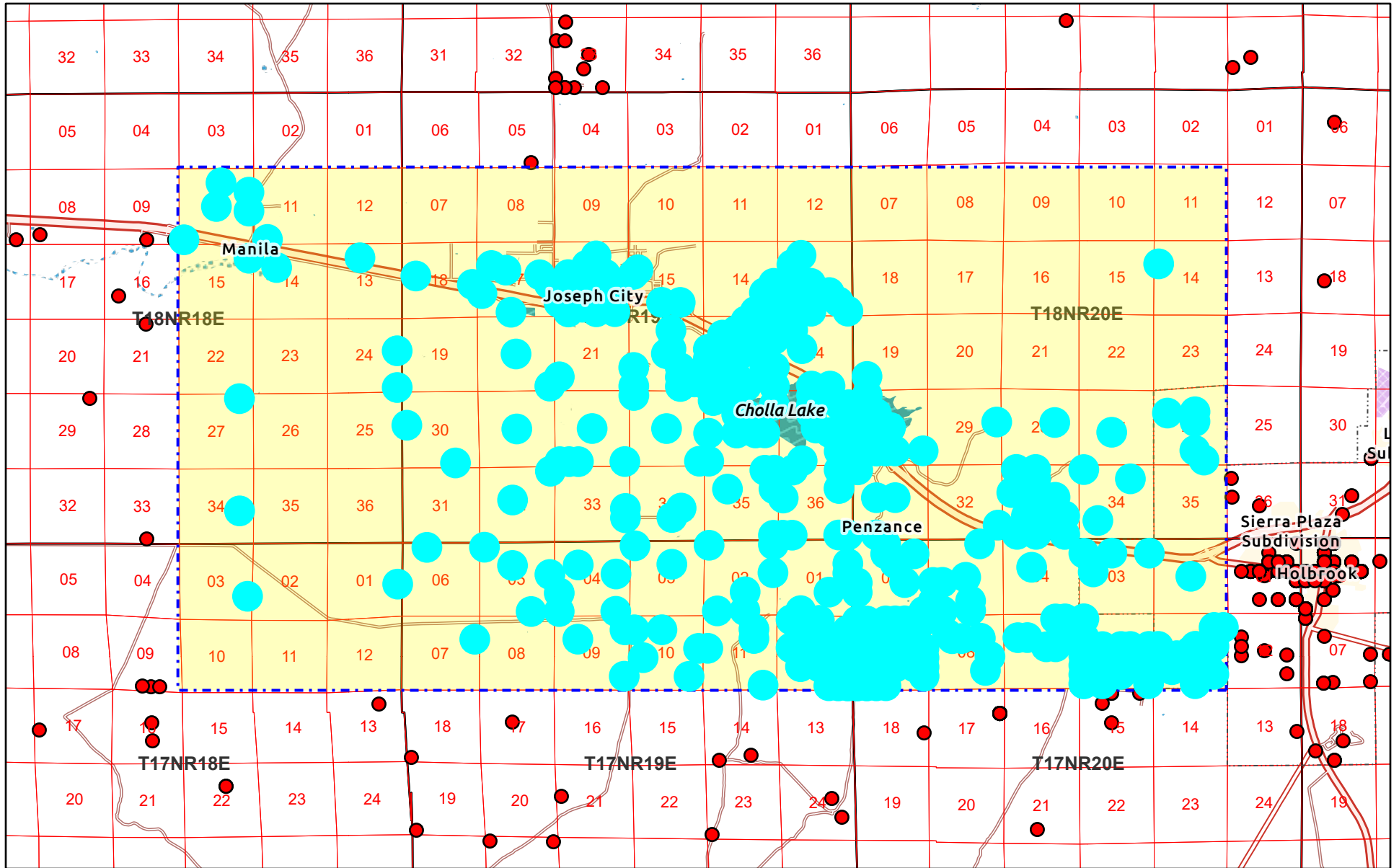
802290	A18019017DA	F B HANSEN	EXEMPT	440	400	6	1/1/1946		5/20/1985	50	30	NO									
802415	A1702001CCA	THOMAS D CATERN	NON-EXEMPT	150	30	8			6/18/1985	15	300	NO									
802422	A1702001700	SENEMORE R E	NON-EXEMPT	0	0	6			5/31/1985	30	90	NO									
806204	A1702001CCD	SEVENTH DAY ADVENT...	NON-EXEMPT	200	80	5			12/31/1945	35	100	NO									
808211	A18019034DAB	BRYAN & CASSIDY JOLLEY	NON-EXEMPT						8/8/2001			NO									
808461	A180190178CA	MARGO A & JOSEPH M ZABADAL	EXEMPT						5/16/2003			NO									
904175	A17019010BAD	SAGE A & DEBORAH D SCHORER	EXEMPT	593	593	7			2/6/1985	465	18	NO	X								
908742	A17019002CCD	ARIZONA PUBLIC SERVICE CORP	NON-EXEMPT	500	490	21			4/22/2008		91	NO									
909085	A1801902ZCBC	AZTEC LAND & CATTLE CO LTD	OTHER	90		7			5/28/2008			NO	A								
909088	A18019016CBO	THRIFTWAY MARKETING	MONITOR	30	30	2			5/23/2008		20	NO									
909797	A17020006CBC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PL	MONITOR	400	400	5			10/3/2008		28	NO									
910260	A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20					11/9/2009			NO									
910281	A18019016CB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009		18	NO									
910284	A18019016CB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009		18	NO									
910285	A18019016CB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009		18	NO									
910289	A18019016CB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009		18	NO									
910303	A18019016CB	ROSS ROGERS	MONITOR	30	30				1/25/2009		18	NO									
910318	A18019016CB	ROSS ROGERS	MONITOR	32	32	4			1/29/2009		18	NO									
910623	A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	41	41	2			4/1/2009		25	NO	A								
911102	A1702002000	CITY OF HOLBROOK	OTHER						9/2/2009			NO									
913770	A18019023ACB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59				11/10/2011		39	NO									
913772	A1801902ZDDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183					11/12/2011			NO	A								
913985	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR						1/16/2012			NO									
913525	A17020029ACD	TYLER KEE STINGLEY	EXEMPT	175	175	7			6/19/2015		35	NO	X								
918649	A18019013BAC	ARIZONA PUBLIC SERVICE	MONITOR	450	445	5			9/11/2015		225	NO									
918658	A18019023CBB	ARIZONA PUBLIC SERVICE	MONITOR	97	84	5			11/17/2015		42	NO									
921016	A1801902ZDDB	ARIZONA PUBLIC SERVICE - APS	MONITOR	126	119	4			11/4/2017		50	NO	X								
921098	A18019029BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2			11/8/2017		37	NO									
921061	A18019023CBB	ARIZONA PUBLIC SERVICE	MONITOR						11/8/2017			NO									
922301	A18019025DDB	ARIZONA PUBLIC SERVICE	MONITOR	50	45				11/15/2018		34	NO	X								
923207	A18019015DCA	LOVE'S TRAVEL SHOP & COUNTRY STORE, INC.	MONITOR						7/24/2019			NO									
923825	A1702001CCB	CLAW L COLE	EXEMPT	170	170	6			1/23/2020			NO									
926111	A1802003CBO	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	50	2			4/23/2021		19	NO									
926116	A1802003CBO	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	19	18	4			4/23/2021		1	NO	X								
926813	A18019024BBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	26	26	6			9/29/2021		18	NO	X								
926815	A18019024BBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	66	3			9/29/2021		19	NO	X								
927407	A18019015DCA	LOVE'S TRAVEL STOPS & COUNTRY STORES, INC	MONITOR						12/9/2021			NO									
927468	A18019015DCA	LOVE'S TRAVEL STOPS & COUNTRY STORES, INC	MONITOR						12/14/2021			NO	X							Drill Records in ADWR Database as of Q1 2023	
928236	A18019015DCA	LOVE'S TRAVEL STOPS & COUNTRY STORES, INC (CHRIS V	MONITOR	15	15	2			6/8/2022		9	NO	X							Drill Records in ADWR Database as of Q1 2023	
928237	A18019015DCA	LOVE'S TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	35	35	2			6/8/2022		20	NO	X							ADWR Records sent to APS in 2022 Q4	
929527	A1802003CBO	AZTEC LAND & CATTLE COMPANY	OTHER	50	50	8			3/28/2023			NO	A							ADWR Records sent to APS in 2022 Q4	
085794	A18020038AD	ERKKILA W O	EXEMPT	200	140	6			1/1/1980			NO								Abandoned geotechnical boring - No Well	
086110	A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0			9/24/1997		100	0	NO								
086149	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14			10/29/1980		0	NO									
086150	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14			9/24/1997		25	0	NO	A							
086151	A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14			9/24/1997		25	0	NO	A							
204270	A18020048BB	RANDY MURPH	NON-EXEMPT	240	100	8			3/13/2005		41	NO	X								
205720	A18019023CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	45	2			3/9/2005		35	NO	A	X							
215311	A18019012DAA	JACKRABBIT TRADING POST	MONITOR	30	28	5			4/25/2007		19	NO									
233176	A18019016CDB	THRIFTWAY MARKETING CORPORATION	MONITOR									NO									
233178	A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER									NO									
238565	A18020039ACB	ARIZONA PUBLIC SERVICE	MONITOR	100	99	2			5/22/2023		22	NO	X								
505455	A1702001ADG	AILEEN C	EXEMPT	100	66	6			6/1/1983			NO									
506365	A18019023AAA	AZ PUBLIC SERVICE	EXEMPT	94	54	5			10/11/1983		20	NO	X								
506366	A18019024BBB	ARIZONA PUBLIC SERVICE	EXEMPT	118	65	5			10/21/1983		26	0	NO	A	X						
511932	A17020007ACA	GROSS K H	EXEMPT	0	0	0			7/30/1985		0	NO									
513860	A17020007DAA	THOMAS HENSON	NON-EXEMPT	170	90	6			3/28/1986		90	27	NO	X							
514592	A17020007BDC	YUZZIE ALRED	NON-EXEMPT	250	80	8			7/25/1986		130	245	YES	X							
527048	A17019012DDC	MYERS JOHN JR,W	EXEMPT	0	0	0			1/31/1990		0	NO									
527280	A18020026ACC	HOLBROOK, TOWN OF,	NON-EXEMPT	78	78	7			3/10/1990		17	0	NO	N	X						
527282	A18020026CDB	HOLBROOK, TOWN OF,	NON-EXEMPT	42	42	6			3/2/1990		0	NO		N	X						
528607	A18020034ABD	HANNING, MOLLIE	NON-EXEMPT	460	395	0			7/19/1990		254	300	NO	X							
533812	A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	293	292	5			1/12/1992		83	0	NO	N	X						
533818	A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0			11/26/1991		0	NO		N							
536055	A1802003CBA	AZ PUBLIC SERVICE,	MONITOR	40	18	4			7/23/1992		33	0	NO	N	X						
517495	A1802003CCD	WESTOVER, ROYAL	EXEMPT	125	125	0			2/2/1993		6	0	NO	C	X						
539097	A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5			7/8/1993		5	0	NO	C	X						
539104	A1802003CBO	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5			5/2/1993		1	0	NO	A	X						
539110	A1802003CBO	AZ PUBLIC SERVICE,	EXEMPT	0	0	0			5/12/1993		0	NO									
539121	A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2			5/19/1993		1	0	NO	N	X						
541684	A18019015BCC	EL PASO NATURAL GAS,	OTHER	500	180	8			12/17/1993		0	NO		N	X						
558134	A17020010ADD	FISH BROS, LLC	NON-EXEMPT	200	42	12			10/29/1996		5	0	NO	X	X						
566113	A17020005CBA	MARCELINO & ROSA PONCE	EXEMPT	125	52	8			7/24/1998		41	NO	X								
578288	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999			NO									
578297	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999			NO									
578303	A18019010CCC	ANTONIO JAQUEZ JR	MONITOR						11/19/1999			NO									
579543	A1802003CBO	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2			3/27/2000		25	NO	X								
579546	A1802003CBO	ARIZONA PUBLIC SERVICE	MONITOR	83	73	2			3/21/2000		46	NO	X								
594035	A18019010CCC	JACKRABBIT TRADING POST	MONITOR						8/9/2002			NO									
594038	A18019010CCC	JACKRABBIT TRADING POST	MONITOR						8/9/2002			NO									
594796	A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR						9/27/2002			NO									
600252	A17020007DAA	SHUNWAY, DREW,	NON-EXEMPT	225	42	12			2/27/1980		75	300	NO	N	N						
600256	34530311012	A17020010DAG	SHUNWAY, DREW,	EXEMPT	280	10	10		1/1/1940		35	30	NO	N	N						
600376	A18019017DAA	F B HANSEN	EXEMPT	450	120	8			1/1/1945		90	20	NO	N	N						
600383	34534511024	A17018003DAD	AZTEC LAND & CATTLE,	EXEMPT	130	20	6		1/1/1930		100	7	NO	N	N						
600521	A17020007ABC	JANSEN,H W	NON-EXEMPT	250	12	12			8/1/1971		50	150	NO	N	N						
601895	A17019012ADD	B & C United Energies	NON-EXEMPT	325	10	1															

910286	A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO		X	
910287	A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO		X	
910395	A18019016C8D	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18	NO		X	
913769	A18019025BAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011		38	NO		X	
917009	A18019023DCC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014		NO	A	X	
918639	A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015			NO		X	
918641	A1802003CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/16/2015			NO		X	
921042	A18019022DDB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/5/2017		60	NO	A	X	
923205	A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR					7/24/2019		NO			
925219	A18020030000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020		NO			
925279	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021			NO		X	ADWR records sent to APS in 2021 Q3
926854	A180190248HB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	69	3	9/30/2021		62	NO		X	
927464	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC	MONITOR				12/10/2021			NO		X	Drill Records in ADWR Database as of Q1 2023
927465	A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR				12/13/2021			NO		X	Drill Records in ADWR Database as of Q1 2023
929530	A18019022000	AZTEC LAND & CATTLE COMPANY	OTHER	50	50	8		3/28/2023	26	NO	A	X	Comment on imaged records indicates this well was abandoned after drilling.

Key:
 = Well ownership changed
 = New Registry No. but no well has been drilled yet
 = New Registry No. and well has been drilled.

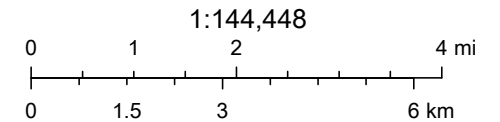
Data downloaded from ADWR Wells 55 database 08/18/2023

ADWR_Registry Review_08182023



August 18, 2023

- Well_Registry
- Section
- County
- City Boundaries
- Township



Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA

Registry No.	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Application Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received	Notes from WSP
08507		A17020010BCD	TURLEY BRENT	EXEMPT	85	30	7	10/1/1980	7/11/1980	18	300	NO			
08514		A17019012ADA	JOHNSON M D	EXEMPT	200	68	6	11/3/1980	9/24/1997	40	30	NO	X	X	
08527		A17020007DAB	MEIKLE & RUSSELL	EXEMPT	175	58	6	1/1/1980	9/24/1997	80	0	NO			
085748		A18019022ACC	RANDALL D S	EXEMPT	365	365	8	8/29/1980	9/24/1980	74	0	NO			
085794		A18020033BAD	ERKKILA W D	EXEMPT	200	140	6	1/1/1980	9/24/1997	100	0	NO			
086109		A1801902300D	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO			
086110		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO			
086111		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO			
086112		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO			
086141		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	88	88	14	1/1/1980	9/24/1997	25	0	NO	A		
086142		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A		
086143		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A		
086144		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A		
086145		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14	1/1/1980	9/24/1997	25	0	NO	A		
086146		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14	1/1/1980	9/24/1997	25	0	NO	A		
086147		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	85	85	14	1/1/1980	9/24/1997	25	0	NO	A		
086148		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A		
086149		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A		
086150		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A		
086151		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14	1/1/1980	9/24/1997	25	0	NO	A		
086152		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14	1/1/1980	9/24/1997	0	0	NO	A		
086153		A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	45	45	14	1/1/1980	9/24/1997	45	0	NO	A		
086184		A18020033CAC	EGBERT A	NON-EXEMPT	165	75	6	1/1/1980	9/24/1997	65	0	NO			
087057		A170200078CA	SARAH V. HANCOCK	EXEMPT	175	60	6	6/27/1981	8/1/1981	85	0	NO	X	X	
204270		A1802003488B	RANDY MURPH	NON-EXEMPT	240	100	8	3/13/2005	7/8/2004	41	NO			X	
205717		A18019022DOB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004		NO				
205718		A18019022DCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004		NO				
205719		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	3/9/2005	10/29/2004	34	NO			X	
205720		A18019023CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	45	2	3/9/2005	10/29/2004	35	NO	A	X		
207696		A17020007AAA	JACK R PICKETT JR	EXEMPT	175	60	6	5/29/2005	5/4/2005	67	16	NO	X	X	
207948		A17020005CCC	MARIBEL LUNA	EXEMPT	160	54	6	7/18/2005	6/20/2005	46	NO	X	X	X	
211590		A18020033BDD	RAYMOND H TURLEY	EXEMPT	250	137	7	6/3/2006	3/24/2006	100	NO	X	X	X	
212756		A18020033CDA	WILLIAM WIEGAND	OTHER	160	93	5	7/19/2006	7/3/2006	70	13	NO	X	X	
214839		A18019023CDB	KLEINFELDER, INC	OTHER											
215327		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/25/2007	3/30/2007	19	NO	X			
215328		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/24/2007	3/30/2007	19	NO	X			
215329		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	32	30	5	4/24/2007	3/30/2007	19	NO	X			
215330		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	30	29	5	4/24/2007	3/30/2007	19	NO	X			
215331		A18018010DAA	JACKRABBIT TRADING POST	MONITOR	30	28	5	4/25/2007	3/30/2007	19	NO	X			
215540		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				6/12/2009	4/26/2007		NO	X			
215541		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38	NO	X			
217762		A18019016CCA	DELWIN OR EVELYN SOLOMON	NON-EXEMPT	400	400	8	9/18/2008	5/8/2008	45	400	NO	X	X	
220206		A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER					10/15/2010		NO				
220297		A17020010DAA	CITY OF HOLBROOK	NON-EXEMPT	200	41	16	5/13/2011	12/30/2010	20	1400	NO	X	X	
220453		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/9/2011	9/22/2011	42	NO	X			
220454		A18019022DDO	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/10/2011	3/21/2011	40	NO	X			
221278		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42	NO	X			
221279		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42	NO	X			
221780		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/7/2012	10/15/2012	42	NO	X			
222669		A18018010CCC	ANTONIO & CYNTHIA JAQUEZ	MONITOR					8/76/2016		NO				
231033		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALI	MONITOR	30				8/26/2019		NO	A			
231034		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALI	MONITOR	30				8/26/2019		NO	A			
231035		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALI	MONITOR	30				8/26/2019		NO	A			
231036		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALI	MONITOR	30				8/26/2019		NO	A			
231037		A18018010CCC	ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALI	MONITOR	30				8/26/2019		NO	A			
232663		A17020033BBB	EL PASO NATURAL GAS COMPANY, LLC - A KINDER M	OTHER	20	490	12	9/2/2020	7/29/2020		NO	A	X		
233176		A18019016DCB	THRIFTWAY MARKETING CORPORATION	MONITOR							NO				
233177		A18019016CDA	THRIFTWAY MARKETING CORPORATION	MONITOR							NO				
233178		A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233179		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233180		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233181		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233182		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233183		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233184		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233185		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233186		A18019016CAD	THRIFTWAY MARKETING CORPORATION	OTHER							NO				
233187		A18019016BAC	THRIFTWAY MARKETING CORPORATION	OTHER							NO				Ownership changed in 2023 Q3
233264		A17019012DAD	ARIZONA PUBLIC SERVICE COMPANY	EXEMPT	390	79	7	12/16/2020	10/30/2020	92	NO			X	
233265		A18019028CCD	ARIZONA PUBLIC SERVICE	EXEMPT	247	148	7	12/16/2020	10/30/2020	22	NO			X	
233713		A18019016DCB	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2	2/22/2021	1/27/2021		NO	X			
233714		A18019016CDA	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2	2/24/2021	1/27/2021		NO	X			
238622		A17020011AAC	ALEX W & JENNIE B HATCH	EXEMPT					3/28/2022		NO	X			
238560		A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT	111	99	2	5/25/2023	3/30/2023	22	NO	X			
238561		A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT	65	64	4	5/23/2023	3/30/2023	18	NO	X			
238562		A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT	113	112	4	5/23/2023	3/30/2023	24	NO	X			
238563		A18020030CAB	ARIZONA PUBLIC SERVICE	EXEMPT	67	66	4	5/23/2023	3/30/2023	20	NO	X			
238564		A18020030CAB	ARIZONA PUBLIC SERVICE	MONITOR	113	110	2	5/19/2023	3/30/2023	27	NO	X			
238565		A18020030CAB	ARIZONA PUBLIC SERVICE	MONITOR	100	96	2	5/22/2023	3/30/2023	22	NO	X			
238566		A18020030CAB	ARIZONA PUBLIC SERVICE	OTHER	112			5/15/2023	3/30/2023		NO	A	X		
239280		A18019016DBC	THRIFTWAY MARKETING CORPORATION	OTHER	27				7/11/2023		NO	A			
239455		A18019016DBC	THRIFTWAY MARKETING CORPORATION	OTHER					8/4/2023		NO				
482933		A18019028CCD	ARIZONA PUBLIC SERVICE	NON-EXEMPT	220	148	7	12/16/2020	7/23/2020	22	NO			X	
482992		A18020030CDB	ARIZONA PUBLIC SERVICE	MONITOR	51	46	1		4/29/2021		NO	A			
482994		A18020030BDB	ARIZONA PUBLIC SERVICE	OTHER	76	76	1		4/29/2021		NO	A			
482995		A18020030BDB	ARIZONA PUBLIC SERVICE	MONITOR	56	55	1		4/29/2021		NO	A			
500636		A170200048BD	SCHADE J	NON-EXEMPT	250	70	8	1/1/1981	9/24/1997	20	0	NO	X	X	
500712		A17020007CBD	NEWMAN AND JESSICA JOHN	EXEMPT	215	80	5	9/18/1981	8/17/1981	0	0	NO	C	X	
500726		A17020007CBA	JOHN HARDY	EXEMPT	195	80	5	8/21/1981	8/18/1981	49	75	NO	X	X	
501812		A17020010BCD	SCHUMWAY D	EXEMPT	100	39	6	5/1/1982	1/19/1982	24	0	NO	C	X	
502100		A18019016DDC	BARRETT, W W	EXEMPT	280	245	5	9/22/1982	2/23/1982	35	35	NO	X	X	
502294		A17020007ABB	ROBERT L. AND SYLVIA A. VARIAN	EXEMPT	270	229	6	4/1/1982	3/16/1982	20	0	NO	X	X	
502410		A17020030CCC	FERGUSON, M E	NON-EXEMPT	0	0	0		3/19/1982	0	0	NO			
502455		A18019016DDC	RANDALL D	NON-EXEMPT	0	0	0		3/25/1982	0	0	NO			
502730		A17020007B8C	GERALD F BRIGGS	EXEMPT	160	57	8	8/20/1982	8/18/1982	90	5	NO	C	X	
503829		A17020010CCB	FRED & GAIL JOE	EXEMPT	200	200	7		8/26/1982	60	0	NO	X	X	
503847		A17020007CCC	EDWIN & BRENDA BURROUGHS	EXEMPT	200	79	8	5/8/1983	8/30/1982	37	0	YES	C	X	
503848		A170200078BB	ED												

503984		A18020033DAC	SCHADE, J	EXEMPT	200	201	6	10/14/1982	9/21/1982	90	0	NO	X	X	
504944		A17019012DCA	JANKA, D	EXEMPT	200	70	7	6/20/1983	3/9/1983	57	0	NO	C	X	
505119		A18019016DDC	RANDALL, A BLAINE,	NON-EXEMPT	450	280	12	8/15/1983	4/5/1983	40	800	NO	X	X	
505356		A17020007BDD	MYERS, JOHN JR,W	NON-EXEMPT	0	0	0		5/10/1983	0	0	NO			
505455		A17019012ADC	ALLEN, C G	EXEMPT	200	69	6	6/1/1983	5/23/1983	70	24	NO	X	X	
505634	3453121012	A17020010ACC	HOLBROOK, TOWN OF,	NON-EXEMPT	105	87	12	7/1/1983	6/14/1983	13	1450	YES	X	X	
506364		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	N	X	
506365		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	54	54	5	10/11/1983	9/21/1983	20	0	NO	N	X	ADWR records sent to APS in 2021 Q3
506366		A180190248BD	ARIZONA PUBLIC SERVICE	EXEMPT	118	65	5	10/21/1983	9/21/1983	26	0	NO	A	X	ADWR records sent to APS in 2021 Q3
506367		A180190139BD	AZ PUBLIC SERVICE,	EXEMPT	93	84	5	10/14/1983	9/21/1983	45	0	NO	N	X	
506368		A18019013CDD	AZ PUBLIC SERVICE,	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X	
506369		A18019023AAC	AZ PUBLIC SERVICE,	EXEMPT	39	0	0	10/26/1983	9/21/1983	0	0	NO	N	X	ADWR Records sent to APS in 2022 Q4
506370		A18019023ADA	AZ PUBLIC SERVICE,	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X	
506371		A18019023DAB	AZ PUBLIC SERVICE,	EXEMPT	54	47	5	11/11/1983	9/21/1983	37	0	NO	N	X	Records in ADWR database as of 2023 Q4
506372		A18019023ACA	AZ PUBLIC SERVICE,	EXEMPT	94	65	5	10/4/1983	9/21/1983	32	0	NO	N	X	
506586		A18019023ABB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	58	58	5	11/2/1983	11/1/1983	36	0	NO	N	X	
506587		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER	40	35	5	11/4/1983	11/3/1983	3	0	NO	A	X	
507508		A17020007BDD	PENROD, JOHNNY E	NON-EXEMPT	195	70	7	5/15/1984	3/20/1984	49	14	NO	X	X	
508359		A17020007AAA	JANSEN, H	EXEMPT	0	0	0		6/12/1984	0	0	NO			
509947		A17019012BAC	BELSHE, M T	EXEMPT	166	166	6	12/26/1984	12/20/1984	90	28	NO	X	X	
510154		A17020010CBB	BISSONNETTE & SMITH	EXEMPT	98	40	6	6/5/1985	1/28/1985	33	15	NO	X	X	
511029		A17020007CBA	TRACY OR JANELLA PERKINS	EXEMPT	195	80	5	10/11/1981	5/2/1985	60	35	NO	X	X	
511169		A18019023800	HARCO CORP,	OTHER	205	205	10	5/23/1985	5/17/1985	0	0	NO	N	X	
511932		A17020007ACA	GROSS, K H	EXEMPT	0	0	0		7/30/1985	0	0	NO			
513840		A17020007D9A	THOMAS HENSON	NON-EXEMPT	170	50	6	5/2/1986	3/28/1986	90	27	NO	X	X	
514992		A17020007BDD	YUZZIE, ALRED,	NON-EXEMPT	250	80	8	8/25/1986	7/25/1986	130	245	YES	X	X	
515770		A17020007BDD	YAZZIE, ALFRED,	NON-EXEMPT	200	80	0	11/7/1987	10/7/1986	54	3	NO	X	X	Well driller report available as of Q4 2023
516042		A17020007DAD	JANSEN, CORNELIS,	NON-EXEMPT	175	50	6	11/4/1986	11/4/1986	42	20	NO	X	X	
518211		A17020007B8B	TERMAH, DEBORAL,	EXEMPT	200	40	6	3/17/1988	6/19/1987	39	0	NO	C	X	
518943		A180190158CO	EL PASO NATURAL GAS,	OTHER	500	190	8	10/15/1987	9/2/1987	0	0	NO	N	X	
519638		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	0	0	NO	N	X	
519639		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X	
519640		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X	
519760		A17020007ABD	MEGAN P MURPH	EXEMPT	150	62	6	7/10/1988	12/1/1987	35	20	NO	X	X	
520217		A17020007CDD	YAZZIE, ALFRED	EXEMPT	180	60	6	2/10/1989	2/10/1989	60	0	NO	C	X	
521468		A17019012B8A	MAXWELL, MYRON,	EXEMPT	200	67	6	5/12/1989	6/14/1988	75	12	NO	X	X	
524566		A18019023000	AZ PUBLIC SERVICE,	OTHER	185	40	6	6/8/1989	5/17/1989	0	0	NO	N	X	
527034		A17020007ABA	CHRISTOPHER & SHERRA DUNSMORE	EXEMPT	150	30	6	4/30/1990	2/2/1990	45	0	NO	C	X	
527039		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527040		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527041		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527042		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527043		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527044		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527045		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527046		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527047		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527048		A17019012DDO	MYERS, JOHN JR,W	EXEMPT	0	0	0		1/31/1990	0	0	NO			
527278		A18020026DCD	HOLBROOK, TOWN OF,	NON-EXEMPT	0	0	0		3/2/1990	0	0	NO	N		
527279		A18020026B8A	HOLBROOK, TOWN OF,	NON-EXEMPT	0	0	0		3/2/1990	0	0	NO	N		
527280		A18020026ACC	HOLBROOK, TOWN OF,	NON-EXEMPT	78	78	7	3/10/1990	3/2/1990	17	0	NO	N	X	
527281		A18020026ACB	HOLBROOK, TOWN OF,	NON-EXEMPT	300	300	6	3/4/1990	3/2/1990	229	0	NO	N	X	
527282		A18020026DCB	HOLBROOK, TOWN OF,	NON-EXEMPT	42	42	6	3/8/1990	3/2/1990	0	0	NO	N	X	
528697		A18020034ABD	JENNINGS, MOLLIE,	NON-EXEMPT	460	395	0	7/10/1990	7/9/1990	254	300	NO	X	X	
529604		A18019016DCB	RADIAN CORP,	MONITOR	18	10	2	5/28/1991	5/20/1991	13	0	NO	N	X	
529605		A18019016DCB	RADIAN CORP,	MONITOR	15	10	2	5/29/1991	5/20/1991	13	0	NO	N	X	
529606		A18019016DCD	RADIAN CORP,	MONITOR	25	20	2	5/28/1991	5/20/1991	13	0	NO	N	X	
529607		A18019016DCA	RADIAN CORP,	MONITOR	15	10	2	5/28/1991	5/20/1991	13	0	NO	N	X	
531124		A17020010BDC	SHUMWAY, DREW,	NON-EXEMPT	275	20	14	5/28/1991	3/7/1991	12	750	NO	X	X	
533811		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	259	258	5	1/22/1992	11/26/1991	114	0	NO	N	X	
533812		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	293	292	5	1/12/1992	11/26/1991	83	0	NO	N	X	
533813		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	280	279	5	12/16/1991	11/26/1991	80	0	NO	N	X	
533814		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	62	62	5	1/27/1992	11/26/1991	4	0	NO	N	X	
533815		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	X	
533816		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	240	238	5	12/19/1991	11/26/1991	80	0	NO	N	X	
533817		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	141	140	5	2/15/1992	11/26/1991	30	0	NO	N	X	
533818		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N		
533819		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N		
533820		A18020030CA	AZ PUBLIC SERVICE,	MONITOR	96	28	5	2/15/1992	11/26/1991	30	0	NO	N	X	
534511		A170200118CC	JEFFERS, MARIA,	NON-EXEMPT	0	0	0		2/20/1992	0	0	NO			
535278		A18020029ADD	BRIMHALL SAND & ROCK,	NON-EXEMPT	420	420	10	6/3/1992	5/12/1992	251	0	NO	C	X	
536055		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	18	4	7/23/1992	7/16/1992	33	0	NO	N	X	
536056		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	21	0	0	7/20/1992	7/16/1992	20	0	NO	N	X	
536057		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	62	62	5	7/21/1992	7/16/1992	50	0	NO	N	X	
536058		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	30	0	0	7/22/1992	7/16/1992	30	0	NO	N	X	
536059		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	0	0	7/28/1992	7/16/1992	33	0	NO	N	X	
537495		A18020031CDD	WESTOVER, BOYD,L	EXEMPT	125	125	0	2/2/1993	12/1/1992	6	0	NO	C	X	
538790		A17020007CDD	MYERS, JOHN JR,W	NON-EXEMPT	200	200	5	4/22/1993	4/15/1993	0	40	NO	X	X	
539095		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	0	NO	C	X	
539096		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/28/1993	5/12/1993	5	0	NO	C	X	
539097		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X	
539098		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X	
539099		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	0	NO	C	X	
539100		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	20	0	0	7/7/1993	5/12/1993	5	0	NO	C	X	
539101		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0	7/7/1993	5/12/1993	1	0	NO	C	X	
539102		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	21	0	0	7/7/1993	5/12/1993	5	0	NO	C	X	
539103		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	A	X	
539104		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/2/1993	5/12/1993	1	0	NO	A	X	
539105		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO			

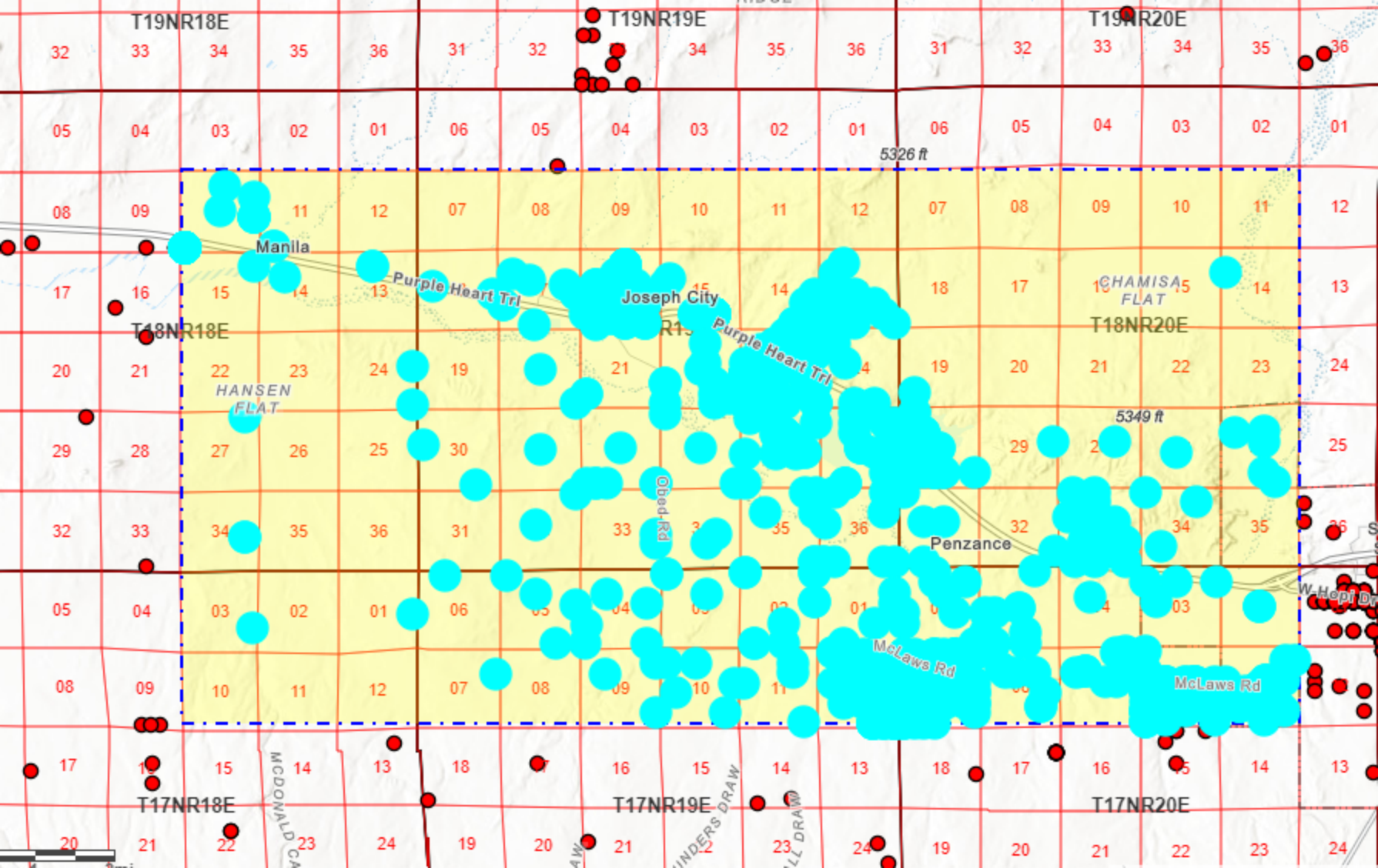
604273		A170200078BC	ROY WHITE	NON-EXEMPT	175	121	8	7/1/1979	3/4/1982	82	100	YES								
604646		A180200338CC	PARISH, D	NON-EXEMPT	250	80	8	11/28/1973	3/12/1982	67	60	NO								
604689	34530811012	A17020010CA	D'AMICO, DONALD R	NON-EXEMPT	150	150	12	1/1/1957	3/11/1982	15	1100	YES								
604690		A17020010CA	HOLBROOK, CITY OF	NON-EXEMPT	60	40	12	1/1/1935	3/11/1982	10	1000	YES								
604691	34531011012	A17020010CA	HOLBROOK, CITY OF	NON-EXEMPT	50	30	12	1/1/1935	3/11/1982	10	450	NO								
604918		A17020007CCB	DARRELL A & CYNTHIA L STEEN	NON-EXEMPT	200	126	6	7/3/1979	3/8/1982	80	35	YES								
604926		A1702001100D	BRIGHAM YOUNG UNIV.,	NON-EXEMPT	0	0	0	9/5/1961	3/10/1982	0	0	NO								
605139		A17019012ACA	B & C United Energies	NON-EXEMPT	408	13	10	1/1/1977	3/22/1982	74	300	YES								
605141		A170200108CB	MC LAWS, W	NON-EXEMPT	100	221	5	1/1/1965	3/22/1982	12	100	NO								
605469	34544711013	A18020033CA	WILLIAM WIEGAND	NON-EXEMPT	208	208	6	12/31/1946	4/7/1982	165	120	NO							A	
605470		A170200108CB	MC LAWS, C L	NON-EXEMPT	100	0	8	7/1/1962	4/7/1982	8	0	NO								
605617		A18020034C0D	JENNINGS, C L	NON-EXEMPT	300	150	8	3/1/1973	3/31/1982	120	45	NO								
605778		A1702000500D	DEWITT M	NON-EXEMPT	240	18	12	5/20/1974	3/31/1982	46	500	YES								
605779		A1702001100D	DEWITT H K	NON-EXEMPT	175	15	12	1/1/1970	3/31/1982	30	350	NO								
606476		A17020010C8B	JEFFERS, J C	NON-EXEMPT	0	0	0		4/30/1982	0	0	NO								
606477		A17020010C8B	JEFFERS, J C	NON-EXEMPT	150	0	0		4/30/1982	17	0	NO								
606478		A17020011CAB	JEFFERS, J C	NON-EXEMPT	200	0	0	1/1/1953	4/30/1982	0	300	NO								
606495		A170200078BC	HILDEBRAND, R E	NON-EXEMPT	400	8	12	6/12/1973	4/26/1982	67	374	YES								
606498		A17020011C0D	ADAIR, F R	NON-EXEMPT	125	20	6		4/26/1982	26	50	NO								
606720		A180200338AC	DESPAIN, R E	NON-EXEMPT	350	129	11	1/1/1974	5/3/1982	90	100	NO								
606724		A1702000800D	J-S FARMS, INC	EXEMPT	0	0	0		5/3/1982	0	35	NO								
606725		A1702000800D	J-S FARMS, INC	EXEMPT	0	0	0		5/3/1982	0	35	NO								
606801	34583311024	A18018010ADA	THE CAROL A SHAFF REVOCABLE TRUST	EXEMPT	50	50	6	1/1/1910	4/16/1982	30	20	NO								
607766		A17019012DCD	MYERS, JOHN JR, W	NON-EXEMPT	460	10	12	1/1/1960	5/7/1982	92	525	NO								
607767		A17019012DCD	MYERS, JOHN JR, W	NON-EXEMPT	250	10	7	12/1/1976	5/7/1982	94	100	NO								
607768		A1702000780C	JOHN W MYERS, JR.	NON-EXEMPT	150	51	10	11/1/1976	5/7/1982	100	47	NO								
607769		A17019012DCD	MYERS, JOHN JR, W	NON-EXEMPT	180	8	8	1/1/1966	5/7/1982	81	100	NO								
608472	34563711019	A18019022C8C	LARRY E & AVA RACHELE BALDWIN	NON-EXEMPT	440	343	10	3/17/1967	5/10/1982	10	1000	NO								
609539		A18019016C0D	NEAL T R	NON-EXEMPT	200	0	3	1/1/1936	5/25/1982	19	0	NO								
609540		A18019016C0D	NEAL T R	NON-EXEMPT	200	0	8	1/1/1934	5/25/1982	19	500	NO								
609578		A1702000780C	PENROD, JOHNNY E	NON-EXEMPT	400	10	12	1/1/1970	5/14/1982	90	700	YES								
609959		A1802003300D	SCHADE, G L	NON-EXEMPT	150	130	6	1/1/1940	5/24/1982	0	0	NO								
610650		A17020007DAD	JEAN GEORGE	NON-EXEMPT	250	9	9	3/10/1974	5/23/1982	49	75	YES								
613088		A18019026ACB	AZ PUBLIC SERVICE,	NON-EXEMPT	595	695	30	1/1/1961	6/10/1982	0	1200	YES								
613089	34543411017	A18019036CCC	AZ PUBLIC SERVICE,	NON-EXEMPT	350	55	10	12/1/1961	6/10/1982	27	950	YES							X	
613090	34543411017	A18019036CCC	AZ PUBLIC SERVICE,	NON-EXEMPT	350	60	24	3/8/1962	6/10/1982	37	2000	YES								
613091	34534511017	A18019002D8C	AZ PUBLIC SERVICE,	NON-EXEMPT	487	320	16	8/1/1967	6/10/1982	55	750	YES								
613092	34525111018	A17019010DD8	AZ PUBLIC SERVICE,	NON-EXEMPT	550	38	24	2/1/1977	6/10/1982	100	450	YES								
613093	34552611020	A18019028C0C	AZ PUBLIC SERVICE,	NON-EXEMPT	245	58	12	10/27/1978	6/10/1982	14	800	YES							X	
613094	34534011019	A17019004DDC	AZ PUBLIC SERVICE,	NON-EXEMPT	550	61	24	3/5/1978	6/10/1982	87	1000	YES								
613095	34541511020	A17019004B8B	AZ PUBLIC SERVICE,	NON-EXEMPT	430	85	24	7/1/1978	6/10/1982	30	900	YES							X	
613096		A170190128CD	ARIZONA PUBLIC SERVICE	NON-EXEMPT	458	79	7	12/16/2020	6/10/1982	103	900	NO							X	
613097	34531611017	A17019012CAC	ARIZONA PUBLIC SERVICE	NON-EXEMPT	576	78	11	12/16/2020	6/10/1982	97	600	NO							X	
613098		A18019020DD8	AZ PUBLIC SERVICE,	NON-EXEMPT	0	0	8		6/10/1982	0	0	NO								X
613099		A17020006DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	127	25	5	12/16/2020	6/10/1982	58	0	NO								
613125		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	45	0	2		6/10/1982	24	0	NO								
613126		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	6	0	2		6/10/1982	2	0	NO								
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	0	0	NO								
613128		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	1	0	NO								
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0		6/10/1982	2	0	NO								
613130		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	15	0	0		6/10/1982	15	0	NO								
613131		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	20	0	NO								
613132		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	2	0	NO								
613133		A180190268BA	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	17	0	NO								
613134		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	17	0	NO								
613135		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	8	0	NO								
613136		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	6	0	0		6/10/1982	1	0	NO								
613137		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	1	0	NO								
613138		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	0	0	NO								
613139		A18019026ACC	AZ PUBLIC SERVICE,	EXEMPT	14	0	0		6/10/1982	12	0	NO								
613140		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	18	0	NO								
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO								
613142		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	35	0	0		6/10/1982	13	0	NO								
613143		A18019021CCB	AZ PUBLIC SERVICE,	EXEMPT	1005	267	10	1/1/1977	6/10/1982	8	0	NO								
613144		A180190280DD	AZ PUBLIC SERVICE,	EXEMPT	374	0	12		6/10/1982	13	0	NO								
613145		A18019026C8B	AZ PUBLIC SERVICE,	EXEMPT	570	0	0	1/1/1959	6/10/1982	30	0	NO								
613146	34533911020	A17019004CCC	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		6/10/1982	0	0	NO								
613147		A18019028DD8	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		6/10/1982	0	0	NO								
613148		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO								
613149	34561311018	A180190268BA	AZ PUBLIC SERVICE,	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO								
613150		A180190180B8	AZ PUBLIC SERVICE,	EXEMPT	57	50	6	8/23/1973	6/10/1982	45	0	NO								
613151		A18019026CAA	AZ PUBLIC SERVICE,	EXEMPT	57	53	6	8/28/1973	6/10/1982	40	0	NO								
613152		A18019025C0C	ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT	EXEMPT	56	49	6	8/30/1973	6/10/1982	32	0	NO							A	
613153		A18019026DAB	AZ PUBLIC SERVICE,	EXEMPT	92	80	6	9/4/1973	6/10/1982	40	0	NO								
613154		A18019022DCA	AZ PUBLIC SERVICE,	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	0	NO								
613155		A170190128BA	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		6/10/1982	0	0	NO								A
613158	34575111023	A180190138AD	AZ PUBLIC SERVICE,	EXEMPT	1005	290	16	4/8/1978	6/10/1982	35	0	NO								
613159	34580211024	A18018011CCD	AZ PUBLIC SERVICE,	EXEMPT				1/17/1978	6/10/1982											
613163		A1801902488B	AZ PUBLIC SERVICE,	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO								
613164		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	44	28	1	10/31/1978	6/10/1982	28	0	NO								
613165		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	177	88	1	11/1/1978	6/10/1982	62	0	NO								
613166		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO								
613167		A18019023AAB	AZ PUBLIC SERVICE,</																	

909090	A18019016CBD	THRIFTWAY MARKETING	MONITOR	32	30	2	5/28/2008	5/23/2008	20		NO		X
909091	A18019016CBD	THRIFTWAY MARKETING	MONITOR	32	30	2	5/28/2008	5/23/2008	20		NO		X
909092	A18019016CBD	THRIFTWAY MARKETING	MONITOR	35	35	2	5/28/2008	5/23/2008	20		NO		X
909093	A18019016CBD	THRIFTWAY MARKETING	MONITOR	20	20	2	5/28/2008	5/23/2008	20		NO		X
909094	A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/30/2008	5/23/2008	20		NO		X
909096	A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/31/2008	5/23/2008	20		NO		X
909097	A18019016DAC	THRIFTWAY MARKETING	MONITOR					5/23/2008			NO		
909098	A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	32		5/29/2008	5/23/2008	20		NO		X
909099	A18019016CBD	THRIFTWAY MARKETING	MONITOR	32	32	2	5/29/2008	5/23/2008	20		NO		X
909100	A18019016CBD	THRIFTWAY MARKETING	MONITOR	32	32	2	5/29/2008	5/23/2008	20		NO		X
909102	A18019016CBD	THRIFTWAY MARKETING	MONITOR					5/23/2008			NO		
909103	A18019016CBD	THRIFTWAY MARKETING	OTHER	20	20		5/31/2008	5/23/2008			NO		X
909105	A18019016CBD	THRIFTWAY MARKETING	OTHER	18	18	2	5/31/2008	5/23/2008			NO		X
909106	A18019016CBD	THRIFTWAY MARKETING	OTHER	18	18	2	5/31/2008	5/23/2008			NO		X
909401	A17020010CCB	RONALD LEE SMITH	EXEMPT	160	160	6	7/11/2008	7/11/2008	67	25	NO	X	X
909605	A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	32	2	5/29/2008	5/23/2008	20		NO		X
909750	A17020009ADA	ROBERT L. SMITH	EXEMPT	160	160	5	9/28/2008	9/17/2008	35	35	NO	X	X
909768	A170200078BA	GERALD BRIGGS	EXEMPT	160	160	6	9/19/2008	9/18/2008	66		NO		X
909797	A17020006C8C	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	400	400	5	10/3/2008	9/24/2008	28		NO		X
909801	A18019022CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	535	530	5	10/30/2008	9/25/2008	30		NO		X
909802	A17020006C8B	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	410	400	5	10/7/2008	9/25/2008	64		NO		X
909803	A18019022CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	510	500	5	11/6/2008	9/25/2008	29		NO		X
909887	A180200308BA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	290	280	5	11/18/2008	10/30/2008			NO		X
909888	A180200308BA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	385	380	5	11/15/2008	10/30/2008	140		NO		X
910007	A18019025CCD	ARIZONA PUBLIC SERVICE CO	MONITOR	60	60	10	11/21/2008	11/6/2008			NO		X
910008	A18019025DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	60	65	5	11/22/2008	11/6/2008	30		NO		X
910009	A18019023DD	ARIZONA PUBLIC SERVICE CO	MONITOR	75	70	5	11/20/2008	11/6/2008	45		NO		X
910010	A18019023DD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5	12/4/2008	11/6/2008	45		NO		X
910011	A18019026DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8	11/23/2008	11/6/2008	38		NO		X
910012	A18019035AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	46	40	8	11/24/2008	11/6/2008	34		NO		X
910013	A180190258DA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5	11/21/2008	11/6/2008	34		NO		X
910248	A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20	20		1/14/2009	1/9/2009			NO		X
910249	A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20				1/9/2009			NO		X
910250	A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20				1/9/2009			NO		X
910278	A18019016CBD	ROSS ROGERS	MONITOR					1/15/2009			NO		I
910279	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/19/2009	1/15/2009	18		NO		X
910280	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910281	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910282	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910283	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910284	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910285	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910286	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910287	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910288	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910289	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910290	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910291	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910292	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910293	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910294	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910295	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910296	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910297	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910298	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910300	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910301	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910302	A18019016CBD	ROSS ROGERS	MONITOR	30	30		1/25/2009	1/15/2009	18		NO		X
910303	A18019016CBD	ROSS ROGERS	MONITOR	30	30		1/25/2009	1/15/2009	18		NO		X
910304	A18019016CBD	ROSS ROGERS	MONITOR	30	30		1/25/2009	1/15/2009	18		NO		X
910305	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910306	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910307	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910308	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/15/2009	18		NO		X
910312	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910313	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910314	A18019016CBD	ROSS ROGERS	MONITOR	30	30		1/29/2009	1/16/2009	18		NO		X
910315	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910316	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910317	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910318	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910319	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910320	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910321	A18019016CBD	ROSS ROGERS	MONITOR	32	32	4	1/29/2009	1/16/2009	18		NO		X
910324	A17020006BAD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	400	240	21	4/10/2009	1/19/2009	29		NO		X
910623	A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	41	41	2	4/9/2009	4/9/2009	25		NO	A	X
910624	A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40		8	4/1/2009	4/8/2009	25		NO	A	X
910717	A17020011000	CITY OF HOLBROOK	OTHER	45		8	5/18/2009	5/11/2009	20		NO	A	X
910718	A17020002000	CITY OF HOLBROOK	OTHER	45		8	5/28/2009	5/11/2009	23		NO	A	X
910723	A17020007DAC	DANIELLE FERNIZA	EXEMPT	200	100	6	6/21/2009	5/11/2009	95		NO		X
911102	A17020002000	CITY OF HOLBROOK	OTHER					9/11/2009			NO		
911103	A17020002000	CITY OF HOLBROOK	OTHER					9/11/2009			NO		
912020	A17020009BCA	PENFIELD, CHARLENE PENFIELD, ALVIN	EXEMPT	155	155	5	5/14/2010	5/5/2010	25	25	NO	X	X
912635	A17019012DAA	JESSIE AARNY BLINK	EXEMPT	363	100	6	12/1/2010	10/18/2010	83		NO		X
912800	A18019013CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					12/27/2010			NO		I
913769	A180190258AA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011	11/3/2011	28		NO		X
913770	A18019023CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59		11/10/2011	11/3/2011	39		NO		X
913771	A180190258BA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				11/11/2011	11/3/2011			NO		X
913772	A180190220DB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183			11/12/2011	11/3/2011			NO	A	X
913983	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913984	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913985	A18019023C8B	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913993	A180190130DD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/29/2012			NO		
914942	A1801801480B	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	60	2	11/20/2012	11/14/2012	23		NO		X
915393	A170200078CC	BRYANT PETERSEN	NON-EXEMPT	220	220	6	6/3/2013	3/28/2013	68	10	NO	X	X
916857	A17020010DCB	DAVID & DEBBIE SHUMWAY	EXEMPT					5/1/2014			NO		
917009	A180190230CC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014			NO	A	X
917515	A18019022000	BNSF RAILWAYS	OTHER	100		8	11/4/2014	11/6/2014	24		NO	A	X
917536	A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	61		8	11/20/2014	11/15/2014	32		NO	A	X
917606	A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	60	2	12/10/2014	12/8/2014	30		NO	A	X
917710	A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40		8	12/11/2014	1/14/2015	30		NO	A	X
918505	A17020009ACD	TYLER KEE STINGLEY	EXEMPT	175	175	7	6/10/2015	8/6/2015	35	80	NO	X	X

ADWR records sent to APS in 2021 Q3

929675		A17020007BAA	GREG LONG	EXEMPT				5/3/2023		NO			
929922		A18019016BDA	THRIFTWAY MARKETING CORPORATION	OTHER	27			7/10/2023		NO	A		Comment on imaged records indicates this well was abandoned after drilling.
930125		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC (ATTN	MONITOR				8/24/2023		NO			Drilling card issued - expires 08/24/2024
930126		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC (ATTN	MONITOR				8/24/2023		NO			Drilling card issued - expires 08/24/2024
930127		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC (ATTN	MONITOR				8/24/2023		NO			Drilling card issued - expires 08/24/2024

Key:
 New Well Registry No.
 Missing some or all records



APPENDIX

K

ANNUAL PROGRESS REPORT
DOCUMENTING THE
CONTINUED LACK OF
ALTERNATIVE CAPACITY AND
PROGRESS TOWARD CLOSURE
OF THE FAP AND BAP (APS)



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Joseph City, Arizona 86032

November 30, 2023

**Subject: §257.103(f)(2) ANNUAL PROGRESS REPORT DOCUMENTING
THE CONTINUED LACK OF ALTERNATIVE CAPACITY AND
PROGRESS TOWARDS CLOSURE OF THE FAP AND BAP
Cholla Power Plant – Navajo County, Arizona**

In accordance with the requirement for an annual progress report required by 40 CFR §257.103(f)(2)(x), this report documents the continued lack of alternative disposal capacity for coal combustion residuals (CCR) at the Arizona Public Service Company (APS) Cholla Power Plant during the reporting period (i.e., December 1, 2022 through November 30, 2023). This report also describes progress made during the reporting period towards closure of two CCR units that APS has requested a site-specific alternative deadline to initiate closure for: the Fly Ash Pond (FAP) and the Bottom Ash Pond (BAP). Our demonstration prepared pursuant to §257.103(f)(2) was submitted to the United States Environmental Protection Agency (US EPA) on November 30, 2020 and was determined by the US EPA to be complete on January 11, 2022. As a consequence of submitting a complete demonstration, the deadline to cease receipt of waste at the FAP and BAP has been tolled until the US EPA issues a final determination regarding the demonstration.

Background. The 420-acre FAP and 80-acre BAP are unlined surface impoundments that receive CCR from coal-fired boiler operations at the Cholla Power Plant. In accordance with the requirements of federal CCR regulations, both the FAP and BAP must cease receiving CCR in the near term and “close for cause.” Since APS plans to cease coal-fired boiler operations at Cholla Power Plant no later than April 2025 and complete closure of the FAP and BAP by October 17, 2028, APS seeks to continue receiving CCR and non-CCR wastestreams in the FAP and BAP under the alternative closure provision of §257.103(f)(2) through June 2025 to accommodate decommissioning.

Lack of Alternative Disposal Capacity. There have been no changes in alternative disposal capacity since submittal of our §257.103(f)(2) demonstration. If the FAP and BAP were not available to receive CCR, coal-fired electrical generation operations at Cholla Power Plant would need to shut down because:

- The FAP and BAP are the only existing CCR units located on-site that are sized and designed appropriately to receive CCR and non-CCR wastestreams generated by operation of Cholla Power Plant.
- Management of CCR and non-CCR wastestreams in wet temporary storage on-site is not technically feasible, let alone safe or adequately protective of the environment, given the projected volumes and the corresponding number of temporary tanks that would be required to contain the wastestreams.
- It is not technically feasible to send wet CCR off-site for disposal – there is no appropriate off-site treatment or disposal facility nearby that the CCR could be piped to and trucking/conveying by rail significant quantities of liquids to an appropriate waste processing facility or landfill is unlikely to be successful. Off-site transport of this

liquid CCR risks creating significant threats to public safety; these risks far out-weigh the benefit of off-site disposal of CCR.

Progress Towards Closure. During the reporting period, APS elected to modify the closure strategy for the BAP from closure in place to closure by removal with placement of the excavated CCR from the BAP in the Bottom Ash Monofill (BAM), an existing CCR landfill at the facility. APS is currently in the process of advancing a conceptual design for closure of the BAP by removal and will modify the closure plan to reflect this change as soon as feasible.

Attachment D(2) of our §257.103(f)(2) demonstration identified multiple tasks required to advance closure of the FAP and BAP by October 17, 2028. An updated version of Attachment D(2) is enclosed with this report. Progress on these tasks is as follows:

- Minimize discharge to the FAP – Since the date of the previous annual progress report (November 29, 2022), discharges from an overflow/blowdown flash tank to the scrubber solids sump that discharges to the FAP were rerouted as part of our commitment to minimizing discharges into the FAP.
- FAP Water Level Monitoring – Decant (free) water level monitoring in the FAP continued during the reporting period and is being conducted to track progress of dewatering the unit. Based on the results of monthly monitoring, the level of the FAP has declined by 2.9 feet thus far in 2023 which is higher than declines typically observed by this time each year. Declines between the December of the previous year and November of 2020 and 2021 were 1.5 and 2.0 feet, respectively; above average rainfall during the summer and fall of 2022 is believed to have resulted in an a relatively low level of decline in 2022 (0.27 feet).
- Stockpile bridge lift material at the FAP – APS is currently in the process of relocating bottom ash from the BAM to be used as future bridge lift material; this activity began in July 2023 and is anticipated to continue through most of 2024. The estimated volume of bottom ash relocated from the BAM to the FAP to date is approximately 160,000 cubic yards.
- Land Acquisition for Closure – Decommissioning and closure planning supporting the shutdown of Cholla Power Plant has necessitated a review of property ownership in the vicinity of the facility. A comprehensive ALTA survey of Cholla property began in September 2022 and was completed in June 2023. The survey has been useful in discussions with adjacent private property owners regarding the potential acquisition of/access to land for sources of borrow materials used in closure. An access agreement for testing of potential soils near the FAP was executed in October 2023. Preliminary conceptual designs for the FAP identified the potential need for land to install stormwater diversion channels around the FAP. At this time, retention of stormwater upstream of the FAP is planned and the acquisition of land for stormwater diversion channels around the FAP is not expected to be necessary.
- Run-On Diversions and Cofferdams (Push Up) Dams – Temporary dams used to divert stormwater upstream of the FAP from contributing run-on to the FAP were completed in December 2022.
- FAP Dewatering – APS conducted detailed design, procurement, and installation of twelve RWI Pittboss mechanically enhanced evaporators to promote evaporation of free water in the FAP in 2022. Since the units began operating in August of 2022, issues with the units becoming detached from their mooring and capsizing led to intermittent operation. The evaporators were taken offline in early March 2023 and redeployed using a new anchoring system in June 2023. Given the limited progress

of decant water evaporation, additional measures to address the water were progressed during the reporting period.

- FAP Geotechnical Investigations and Design Engineering – During the reporting period, geotechnical investigations assessing the surface of the FAP for stability were conducted. Investigations included the construction and testing of a number of roads using various materials and evaluation of nearby soils for use as capping material. With respect to design engineering, an analysis of three different options for addressing stormwater run-on and capping approaches was conducted which identified full containment of stormwater run-on upstream of the FAP as the most viable approach to stormwater management after closure. An evapotranspiration capping strategy was retained as the preferred method for capping the FAP.
- Dewatering of Drainable Porewater at the FAP Using Extraction Wells - Preliminary assessment of engineering control measures to remove drainable porewater within the waste sluiced to the FAP began in 2022; this work has continued through 2023 and included the installation and operation of multiple dewatering test wells in the FAP. The results of testing will assist in refining the FAP closure plan. Once the design of engineering control measures has been suitably progressed, the FAP closure plan will be updated to demonstrate closure performance requirements.
- BAP Design Engineering – Given the change in closure approach for this unit, APS progressed the conceptual design of closing the BAP by removal which is anticipated to include removal of bottom ash from the BAP with placement in the BAM. A lateral expansion of the BAM will likely be required into the northern footprint of the BAP once bottom ash has been removed from this region.

If you have any questions regarding this progress report, please contact Natalie Chrisman Lazarr at 602.316.1324 or via email at natalie.chrisman@aps.com.

Sincerely,

Michael Hancock

Michael Hancock
Plant Manager - Cholla Power Plant

Enclosure: Attachment D(2) – Updated for 2023

ATTACHMENT D(2) – 2023 Updates in GREEN Text

**CHOLLA POWER PLANT
CLOSURE SCHEDULE NARRATIVE
40 CFR 257.103(f)(2)(v)(D)**

Arizona Public Service Company (APS) has been planning for the closure of the Fly Ash Pond (FAP) and Bottom Ash Pond (BAP) for some time. Figures D-1 (FAP Closure Activities) and D-2 (BAP Closure Activities) present Gantt charts depicting the tasks that must be completed as part of pond closure with the corresponding planned schedule for those tasks. This narrative supplements the Closure Plans presented as Attachment D(1) and presents supporting detail regarding the tasks and schedule identified in each Gantt chart.

1. Closure of the Fly Ash Pond

1.1 Pre-Construction

1.1.1 Minimize Discharge to the FAP

Continue implementing measures that limit discharges to the FAP; this activity has been ongoing since early 2016 and has included sale of fly ash to a local cement manufacturer, shut down of Unit 2 and Unit 4, diversion of water from seepage collection systems to general water (this flow previously discharged into the FAP), diversion of reject from the reverse osmosis water treatment system, and various plant operational modifications. This activity will continue thru plant shut down.

1.1.2 Stockpile Closed Ash Pond 1 CCR Material ~~for Bridge Lift~~

Move 767,000 cubic yards (cy) of ash from closed Ash Pond 1 to a stockpile area located within the Fly Ash Pond footprint and store for utilization as ~~bridge lift material~~ **fill and stabilization material** for closure activities. Work began in September 2020 and was completed in December 2021.

1.1.3 Stockpile Bottom Ash for Bridge Lift

Relocate approximately ~~6~~**4**00,000 cy of bottom ash from the Bottom Ash Monofill (BAM) to a stockpile area located within the FAP footprint and store for utilization as bridge lift material for closure activities. Initiated development of a haul route and procurement package in 2022. This work ~~will can~~ started in **second quarter of 2023 and is anticipated to be complete by fourth quarter of 2024.**

1.1.4 Land Acquisition/**Access for Closure** (~~e.g. Diversion Channels~~)

No later than 3 years prior to starting closure activities, acquire land **(or access to land)** adjacent to the FAP for soil borrow areas ~~and construction of diversion channels~~. Investigation of borrow soil areas on APS property was conducted in 2022 to justify the need for offsite borrow areas. An ALTA survey supporting land acquisition was initiated in September 2022 and ~~is projected to be completed in~~ **second quarter of 2023. An agreement for access to land for soil borrow testing was completed in October 2023.**

1.1.5 Run-On Diversions and Coffers (Push Up) Dams

Upstream in the drainage channels, build small retention coffer dams to capture precipitation run on. This work ~~will~~ was completed in late 2022.

~~1.1.6 Excavate Abutment Diversion Channels and Stockpile Select Soil~~

~~Start the excavation of abutment diversion channels approximately one year prior to the cessation of discharge of CCR material (as early as Second Quarter 2024).~~

~~1.1.76 Fly Ash Pond Dewatering~~ **Enhanced Evaporation of Decant Water Area**

Design and construction of a mechanically enhanced evaporation system for increasing the rate of evaporation and accelerating drawdown of free water within the FAP occurred in 2022. Twelve units began operation in August 2022.

1.2 Engineering

1.2.1 Design Engineering

Start design engineering activities in 2023; these activities ~~will~~ include approximately 21 months of design engineering work. The objective of these activities is to produce design drawings and specifications that will be used to procure a contractor for FAP closure activities.

1.2.2 Geotechnical and Borrow Investigations/Bridge Lift Testing

~~Start the geotechnical soils evaluation after acquisition of lands adjacent to abutments. Identify usable soils for borrow materials. If possible, build roads onto the FAP beach for access of light-weight geotechnical test equipment.~~

~~1.2.3 Bridge Lift Test Fill~~

~~Start construction test fills over the CCR material exposed in the pond next to the dam embankment. Test fills to measure internal water pressures generated by bridge lift loading. Estimate techniques and materials needed to construct full-scale soil fill cap.~~

1.3 Permits

1.3.1 Arizona Department of Water Resources (ADWR) Dam Modifications

Anticipate that the permitting process with the ADWR Dam Safety Bureau to modify a jurisdictional high hazard dam will require nine months. Consult early with ADWR to identify if additional time is needed. Initiated discussions with ADWR regarding FAP closure in late 2022.

~~1.3.2 Arizona Department of Environmental Quality (ADEQ) or US Environmental Protection Agency (EPA) CCR Rule Closure Plan Approval~~

Anticipate up to six months will be required to achieve approval of proposed Closure Plan from ADEQ or US EPA **if a permit program is in place before construction begins** ~~ADEQ does not have primacy.~~

1.4 Procurement

1.4.1 Preliminary Construction Contracts

Anticipation of six months duration for procurement of the primary construction contract (includes bid event and award of contract).

1.5 Final Boiler Closures

1.5.1 Plant Final Boiler Closures

Cease generation using coal no later than April 2025.

1.6 Construction

1.6.1 ~~Gravity Drain Down CCR Pile~~ Dewatering of Drainable Pore Water

Install and test extraction wells completed in CCR. Initiate extraction well operations and optimize the extraction of drainable pore water for the interception and removal of pore water that contributes to seepage from the FAP. Allow up to 18 months to gravity drain the delta of CCR material adjacent to the dam. This activity may include pushing out of bridge lift material to help squeeze pore water from the CCR material. This task can begin following cessation of discharge of CCR material to the FAP.

~~1.6.2 Complete Diversion Channel Rock Excavations~~

~~Complete diversion channels; rock excavations started in pre construction. Continue to segregate the selected materials for construction borrow material (activities started Second Quarter 2025).~~

1.6.23 Fill and Stabilize Remaining Water Ponds Areas with Rockfill from Diversion Channel Cuts

Backfill remaining free water at the upstream toe of CCR with rock fill material to entrap remaining free water stabilize soils in preparation for capping this activity should coincide with the excavation of the diversion channels. Utilize rock from diversion excavation.

~~1.6.4 Build Rockfill Toe Buttress to Stabilize Upstream Toe of CCR Pile~~

~~Build the toe buttress with larger rock to stabilize the CCR material. This activity will coincide with the rockfill to trap the remaining free water. Can start Fourth Quarter of 2025.~~

1.6.35 Excavate Upstream Stormwater Basins Diversion Channels and Cofferdams

Finish eExcavating upstream basins to intercept and retain stormwater run-on. diversions to connect with the diversion channels around the abutments. Work starts Third Quarter of 2025 and requires 21 months.

1.6.46 Build Stormwater Detention Basins and Outlet Works

Construct Install a composite liner system in each upstream stormwater detention basins. These basin which will outfall into culverts that convey water under Interstate 40.

1.6.57 Build the ~~South and North Half Bridge Lifts and Construct Evapotranspiration (ET) Cap~~

Construct the bridge lifts and place the ET cap material over the supporting bridge lift material as area comes available. These construction activities will be split along the north and south halves of the pond, advancing the cap materials from southwest to northeast to squeeze pore water out of the CCR pile. ET cap placement will follow the bridge lift construction activities as areas become available. Work starts ~~Second~~ **First** Quarter 2027**6**.

1.6.68 Vegetate ET Cap

Seed the ET cap as sections are completed. Finish September or October 2028.

2. Closure of the Bottom Ash Pond

2.1 Pre-Construction

2.1.1 Land Acquisition for Closure (e.g. ~~Borrow Areas~~ **Diversions Channels)**

~~If needed~~ No later than 3 years prior to starting closure activities, acquire land adjacent to the BAP for soil borrow areas and construction of diversion channels. An ALTA survey supporting land acquisition was initiated in September 2022 and ~~is projected to be~~ **was** completed in **second quarter of 20223**.

2.1.2 Mine Out West Cell from BAP

Excavate bottom ash from the west cell of the BAP and relocate material to the BAM or the FAP for use as bridge lift material.

2.1.3 Divert Bottom Ash Discharge to West Cell

Modify BAP operations to discharge into the BAP west cell in preparation for dewatering of the northern area of the BAP.

2.1.4 Collect Samples from BAM Expansion Area and BAP Dam Shell

Collect samples to evaluate the condition of the BAM expansion area and determine whether the BAP dam shell material is suitable for use as an ET cap.

2.1.5 Dewater Northern Area of the BAP

Promote gravity drain down of the northern area of the BAP.

~~**2.1.2 Stop Mining of Bottom Ash from BAP (to Bottom Ash Monofill)**~~

~~Suspend removal of bottom ash from the BAP with placement of the ash in the BAM so that the material can be used in closure activities.~~

~~**2.1.3 Allow Sluice of Bottom Ash into Decant Area to fill with BA**~~

~~Allow ash from the plant to fill in the decant west and east cells in the BAP.~~

2.2 Engineering

2.2.1 Design Engineering

~~Design engineering activities starting in 2023 approximately 21 months of design engineering work.~~ Start design engineering activities in 2023; these activities will include approximately 18 months of design engineering work. The objective of these activities is to produce design drawings and specifications that will be used to procure a contractor for BAP closure activities.

2.2.2 Geotechnical and Borrow Investigations

~~Start the geotechnical soils evaluation after acquisition of lands adjacent to abutments. Identify usable soils for borrow materials. Build roads onto bottom ash beach areas to~~ for access of light-weight geotechnical test equipment.

2.3 Permits

2.3.1 ADWR Dam Modifications

Anticipate that the permitting process with the ADWR Dam Safety Bureau to breach modify a jurisdictional high hazard dam will require fifteen nine months. Consult early with ADWR to identify if additional time is needed.

2.3.2 ADEQ or US EPA CCR Rule Closure Plan Approval

Anticipate up to six months will be required to achieve approval of proposed Closure Plan from ADEQ or US EPA if a permit program is in place before construction begins ADEQ does not have primacy.

2.4 Procurement

2.4.1 Preliminary Construction Contracts

Anticipation of six months duration for procurement of the primary construction contract (includes bid event and award of contract).

2.5 Final Boiler Closures

2.5.1 Plant Final Boiler Closures

Cease generation using coal no later than April 2025.

2.6 Construction Activities

2.6.1 ~~Transfer~~ Remove Remaining Decant Water from BAP to General Sump for Use during Decommissioning

Siphon or pump extensively sending all free water possible to the plant for use in decommissioning activities or disposal.

2.6.2 Gravity Drain-Down CCR Pile

Allow up to 18 months to gravity drain the delta of CCR material. Activities may include the use of drainage ditches, vacuum wells, and/or pushing out of bridge lift material to help squeeze pore water from the CCR material. Starts with the cessation of discharge of CCR material.

2.6.3 Excavate CCR from the BAM Expansion Area

Remove dewatered bottom ash from the northern area of the BAM and place in the BAM. This activity is anticipated to begin before boiler shutdown but could be ongoing when boiler shutdown occurs.

2.6.4 Construct a BAM Expansion Landfill and Associated Stormwater Controls

Construct a lateral to the existing BAM landfill in the northern area of the BAP footprint after the CCR has been removed from this expansion area. The new lateral will be lined. After CCR has been sufficiently removed from area around the new lateral, construct stormwater control channels.

2.6.5 Build and Vegetate an ET Cap on BAM Expansion Landfill

After CCR excavated from the BAP has been placed in the new lateral, construct an ET cap on the new expansion area, likely using soil from breaching the dam. The ET cap will be seeded for soil stabilization as the cap is placed.

2.6.6 Excavate CCR from BAP and Place in BAM

As the BAP is dewatered, excavate CCR and place the material in the BAM and the new BAM expansion landfill. This effort is anticipated to take 27 months to complete.

2.6.7 Grade and Stabilize Soils in Footprint of Former BAP

After the CCR has been removed from the footprint of the former BAP, regrade the area, as necessary, to promote proper drainage. Seed the soils thereafter to promote soil stabilization. Finish no later than October 2028.

2.6.8 Breach the BAP Dam

When safe to do so, breach the BAP dam to remove this structure from the ADWR jurisdiction.

~~**2.6.3 Grade Pond Using Drained Bottom Ash**~~

~~Grade cut and fill utilizing drained bottom ash material to achieve the final surface configuration. This activity should start as soon as possible with the gravity drain down of the bottom ash material.~~

~~**2.6.4 Excavate Upstream Diversion Channels and Retention Pond**~~

~~Excavate upstream diversion channels to connect with the diversion channels around the abutments. Work will start First Quarter of 2026 and continue for 15 months.~~

~~**2.6.5 Build ET Cap Using Stockpiled Soil from Diversion Channel Cuts**~~

~~ET cap placement will follow the grade cut and fill construction activities as areas become available. Activities will start in Third Quarter of 2027.~~

~~**2.6.6 Vegetate ET Cap**~~

~~Seed the ET cap as sections are completed. Finish September or October 2028.~~

Figure D-1

Planned Schedule for FAP Closure Activities

Last Updated: 11.27.2023 (2023 Updates in Green Text)

NOTES:

- 1. Does not describe any removal of free water to Evaporation Pond or unlined basins
- 2. ~~Does not describe any measures for enhancing drain-down or pore pressure relief within CCR pile.~~
- 3. For cap construction, a south/north distinction has been made to allow an extra year for ~~dewatering drain-down~~ of the more fine-grained northern half.

TASK	START	END	Duration	2020				2021				2022				2023				2024				2025				2026				2027				2028			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre-Construction																																							
Minimize discharge to FAP	20Q1	25Q2	63 months	[Blue bar spanning 20Q1 to 25Q2]																																			
Stockpile 767,000 cy existing fly ash for fill and stabilization material	20Q3	22Q1	18 months	[Blue bar spanning 20Q3 to 22Q1]																																			
Stockpile 400,000 cy of BAM BA for bridge lift material	23Q3	24Q4	15 months	[Green bar spanning 23Q3 to 24Q4]																																			
Land acquisition/access for closure (e.g. borrow diversion channels)	23Q1	24Q2	15 months	[Blue bar spanning 23Q1 to 24Q2]																																			
Run-on control diversions and coffer (push-up) dams	22Q4	23Q1	3 months	[Blue bar spanning 22Q4 to 23Q1]																																			
Excavate abutment diversion channel, stockpile select soils																																							
Enhanced evaporation of decant water (i.e., free water) area FAP dewatering	22Q2	25Q2	36 months	[Blue bar spanning 22Q2 to 25Q2]																																			
Engineering																																							
Design engineering (SG2)	23Q1	24Q4	21 months	[Red bar spanning 23Q1 to 24Q4]																																			
Geotechnical and borrow investigations/bridge lift testing	23Q1	24Q1	12 months	[Red bar spanning 23Q1 to 24Q1]																																			
Bridge lift test fill																																							
Permits																																							
ADWR dam modifications	23Q4	24Q3	9 months	[Green bar spanning 23Q4 to 24Q3]																																			
ADEQ/USEPA CCR closure plan approval (as applicable)	24Q2	24Q4	6 months	[Green bar spanning 24Q2 to 24Q4]																																			
Procurement																																							
Primary construction contract(s)	24Q3	25Q1	6 months	[Purple bar spanning 24Q3 to 25Q1]																																			
Final Boiler Closures																																							
Plant final boiler closures	25Q2	25Q2	0 months	[Orange bar at 25Q2] Coal Fired Boiler Shutdown																																			
Construction																																							
Dewatering of drainable pore water using extraction wells	23Q4	28Q4	60 months	[Yellow bar spanning 23Q4 to 28Q4]																																			
Gravity drain-down CCR pile																																							
Complete diversion channel rock excavations																																							
Fill and stabilize remaining water pond areas with rockfill from diversion channel cuts	25Q2	25Q4	6 months	[Yellow bar spanning 25Q2 to 25Q4]																																			
Build rockfill toe buttress to stabilize upstream toe of CCR pile																																							
Excavate upstream stormwater basins diversion channels and coffer dams	25Q3	27Q2	21 months	[Yellow bar spanning 25Q3 to 27Q2]																																			
Build stormwater detention basins and outlet works	27Q2	28Q2	12 months	[Yellow bar spanning 27Q2 to 28Q2]																																			
Build south half of bridge lift using stockpiled fly ash																																							
Build south half of ET cap using stockpiled soil from diversion cuts	27Q2	27Q4	6 months	[Yellow bar spanning 27Q2 to 27Q4]																																			
Build north half of bridge lift using stockpiled fly ash	27Q1	27Q4	9 months	[Yellow bar spanning 27Q1 to 27Q4]																																			
Build north half of ET cap using stockpiled soil from diversion channel cuts	27Q4	28Q3	9 months	[Yellow bar spanning 27Q4 to 28Q3]																																			
Vegetate ET cap	28Q3	28Q4	3 months	[Yellow bar spanning 28Q3 to 28Q4]																																			

Figure D-2

Planned Schedule for BAP Closure Activities

Last Updated: 11.27.2023 (2023 Updates in Green Text)

NOTES:

- 1. Does not describe any removal of free water to Evaporation Pond or unlined basins.
- 2. ~~Does not describe any measures for enhancing drain down or pore pressure relief within CCR pile.~~

TASK	START	END	Duration	2020				2021				2022				2023				2024				2025				2026				2027				2028				2029			
				1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Pre-Construction																																											
Land acquisition for closure (e.g. borrow areas diversion channels), if needed	24Q2	25Q1	9 months																																								
Stop mining of bottom ash from BAP (to Bottom Ash Monofill)																																											
Allow sluice of bottom ash into decant area to fill with BA																																											
Mine out West Cell from BAP	23Q4	24Q2	6 months																																								
Divert bottom ash discharge to West Cell	24Q1	24Q2	3 months																																								
Sample the BAM expansion area footprint	23Q4	24Q3	9 months																																								
Sample the BAP dam shell materials for use as a closure cap (ET cover)	23Q4	24Q3	9 months																																								
Dewater northern area of the BAP	24Q1	25Q1	12 months																																								
Engineering																																											
Design engineering (SG2)	23Q2	24Q4	18 months																																								
Geotechnical and borrow investigations	23Q2	24Q2	12 months																																								
Permits																																											
ADWR dam modifications	24Q3	25Q4	15 months																																								
ADEQ/USEPA CCR closure plan approval (as applicable)	24Q2	24Q4	6 months																																								
Procurement																																											
Primary construction contract(s)	24Q2	25Q1	9 months																																								
Final Boiler Closures																																											
Plant final boiler closures	25Q2	25Q2	0 months																																								
Construction																																											
Remove Transfer remaining decant water from BAP to general sump for use during decommissioning	25Q2	26Q4	18 months																																								
Gravity drain-down CCR pile	25Q2	26Q4	18 months																																								
Grade pond using drained bottom ash																																											
Excavate upstream diversion channels and retention pond																																											
Excavate CCR from the BAM expansion area and place in the BAM	24Q3	25Q3	12 months																																								
Construct BAM expansion landfill (lateral to existing BAM)	25Q2	26Q2	12 months																																								
Construct stormwater control channels around BAM expansion landfill	27Q1	27Q3	6 months																																								
Build ET cap on BAM expansion landfill using soil from the dam breach using stockpiled soil from diversion channel cuts	28Q3	29Q2	9 months																																								
Vegetate ET cap on BAM expansion landfill	29Q2	29Q3	3 months																																								
Excavate CCR from BAP and place in the BAM	25Q2	27Q3	27 months																																								
Grade and stabilize soils in footprint of former BAP	27Q3	28Q3	12 months																																								
Breach the BAP dam	27Q4	28Q3	9 months																																								