2021 Annual Groundwater Monitoring and Corrective Action Report

for Compliance with the Coal Combustion Residuals (CCR) Rule

Comanche Station

Public Service Company of Colorado

January 31, 2022

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Table of Abbreviations and Acronyms

Abbreviation	Definition
BTV	background threshold value
CCR	Coal Combustion Residuals
COI	constituent of interest
EPA	Environmental Protection Agency
LCS	Laboratory Control Samples
MS/MSD	Matrix Spike/Duplicate
QC	quality control
PSCo	Public Service Company of Colorado
RPD	Relative Percent Difference
SOP	Standard Operating Procedure
SSI	statistically significant increase
SSL	statistically significant level
TDS	Total Dissolved Solids
TSS	Total Suspended Solids

Certification

2021 Groundwater Monitoring Annual Report for Comanche Station

I hereby certify to the best of my knowledge that this groundwater monitoring annual report is designed to meet the performance standard in 40 CFR Part 257 of the Federal Coal Combustion Residuals (CCR) Rule.

I am duly licensed Professional Engineer under the laws of the State of Colorado.



31-JAN-2022

Matthew Rohr, PE
Colorado PE License 0053467
License renewal date October 31, 2023

Summary of 40 CFR Section § 257.90(e)(6) Groundwater Monitoring System Requirements and Site-Specific Compliance at Comanche Station			
§ 257.90(e)(6) *A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:*		**Bottom Ash Impoundment (Ceased Waste Disposal on June 18, 2021)**	**Landfill (Active)**
§257.90(e)(6)(i)	*At the start of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.*	Detection Monitoring Program	Detection Monitoring Program
§257.90(e)(6)(ii)	*At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95.*	Assessment Monitoring Program	Detection Monitoring Program
§257.90(e)(6)(iii)	*If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):*	Yes	Yes
§257.90(e)(6)(iii)(A)	*Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase.*	• W-1 – boron, pH • W-3 – pH • W-4 – pH • W-5 – pH • W-5B – pH • W-6 – boron, pH • W-9 – pH (perimeter well)	• MW-4B – calcium (cross-gradient)
§257.90(e)(6)(iii)(B)	*Provide the date when the assessment monitoring program was initiated for the CCR unit.*	April 6, 2021	N/A (ASD August 24, 2021)
§257.90(e)(6)(iv)	*If it was determined that there was a statistically significant level above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:*	Yes	N/A
§257.90(e)(6)(iv) (A)	*Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase.*	• W-6 – molybdenum • W-7 – cobalt (perimeter well)	N/A
§257.90(e)(6)(iv) (B)	*Provide the date when the assessment of corrective measures was initiated for the CCR unit.*	Must be initiated by February 13, 2022	N/A
§257.90(e)(6)(iv)(C)	*Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit.*	N/A	N/A
§257.90(e)(6)(iv)(D)	*Provide the date when the assessment of corrective measures was completed for the CCR unit.*	N/A	N/A
§257.90(e)(6)(v)	*Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection.*	N/A	N/A
§257.90(e)(6)(vi)	*(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.*	N/A	N/A

1.0 Introduction

The U.S. Environmental Protection Agency's (EPA's) final Coal Combustion Residuals (CCR) Rule establishes comprehensive a set of requirements for the management and disposal of CCR (or coal ash) in landfills and surface impoundments by electric utilities. Comanche Station, located in Pueblo, Colorado (**Figure 1)** is owned and operated by Public Service Company of Colorado (PSCo), an Xcel Energy Company. Comanche Station has two CCR units, an impoundment (Bottom Ash Pond) and an ash disposal facility (Landfill) (**Figure 2**) that are subject to certain requirements of the CCR Rule. PSCo ceased waste disposal at the Bottom Ash Pond in June 2021.

Per the CCR Rule, groundwater monitoring is required to monitor potential impacts to the uppermost aquifer. PSCo established a monitoring network as described in Comanche Groundwater Monitoring System Certification and completed eight rounds of background sampling between 2015 and 2017 (HDR, 2018). The 2018 certified monitoring network included existing and newly installed wells at the Bottom Ash Pond and at the landfill in 2017. All wells were screened in the colluvium, based upon the conceptual site model at that time
In 2020, a phased drilling program was initiated to further evaluate site hydrogeologic conditions to support an alternate liner demonstration under the EPA CCR Part B Final Rule (November 12, 2020) (40 CFR 257.71(d)). The evaluation resulted in installation of fourteen new monitoring wells primarily in the weathered shale (uppermost Pierre Shale). Monitoring completed in 2020 determined that the uppermost groundwater beneath the site is within the weathered shale that lies below the colluvium, and above consolidated, unfractured and thick, shale, and the new wells were added to the certified monitoring network.

This Annual Groundwater Monitoring Report presents the sampling and analysis completed in 2021:

- The status of the groundwater monitoring program for the Bottom Ash Pond at the end of 2021 is in assessment monitoring and initiating an assessment of corrective measures.
- The status of the groundwater monitoring program for the landfill at the end of 2021 is in detection monitoring.

In 2022 PSCo intends to continue the sampling and analysis program following the CCR Rule groundwater monitoring program requirements in 40 CFR 257.93-95 as well as performing an assessment of corrective measures and begin the process of Remedy Selection at the Bottom Ash Pond.

2.0 Facility Description

Comanche Station is a coal-fired plant consisting of three units (Units 1, 2, 3) that burn Powder River Basin coal. Unit 1 was built in 1973, Unit 2 was built in 1975, and Unit 3 was built in 2010 (Tetra Tech, 2012). Comanche Station currently has two CCR units subject to the CCR Rule: a landfill and an impoundment (**Figure 2**). The sections that follow provide a brief description of the CCR units.

The Landfill, also known as the CCR Ash Disposal Facility (**Figure 2**), is an engineered ash monofill consisting of two disposal cells with a combined area of approximately 55 acres. Cell 1 was constructed in 1987 with a clay liner and Cell 2E was constructed with a composite liner system and leachate collection system compliant with the CCR Rule. Additional disposal cells have been permitted and will be constructed in phases as needed to dispose of ash and other approved waste from power generating activities. Fly ash from all three units is collected in silos for disposal in the landfill. Bottom ash is also permitted to be disposed in the on-site landfill. Water treatment sludge (lime from an on-site treatment system), process water pond sediment, coal impurities, and excavation soils are also permitted for disposal at the landfill (Tetra Tech, 2015).

Bottom ash generated from Units 1 and 2 was previously sluiced to the Bottom Ash Pond for dewatering and temporary storage. Bottom ash solids were routinely excavated from the impoundment and either beneficially used off-site or transported to the landfill for disposal. Bottom ash is removed from Unit 3 dry via a submerged flight conveyor and does not go into the Bottom Ash Pond; it is transported dry either to off-site beneficial use or to the landfill for disposal. According to historic documents, the impoundment was constructed in 1972 with a three-foot thick clay liner. The impoundment is partially incised and is 513 feet long by 138 feet wide and 26 feet deep with a surface area of 1.6 acres. The primary influent to the CCR impoundment was sluiced bottom ash, with lesser quantities of economizer ash, and pyrites and non-CCR wastewater. The CCR impoundment effluent historically discharged to the polishing pond immediately east of the Bottom Ash Pond (**Figure 2**) and the polishing pond discharges under Colorado Discharge Permit System (CDPS) Permit No. CO0000612.

In 2021, a sluice water treatment system was designed and constructed to permanently replace the Bottom Ash Pond. The treatment system bypasses the Bottom Ash Pond, provides treatment for all CCR and non-CCR waste streams that previously discharged to the Bottom Ash Pond, and ultimately discharges to the polishing pond. The treatment system is designed and operated to provide effluent water quality meeting the requirements of the CDPS Permit. With the treatment system in service, the Bottom Ash Pond ceased taking receipt of CCR waste streams in June 2021.

Additional ponds at the facility include process water, settling, polishing, and raw water storage ponds. These ponds do not receive CCR, and therefore are not subject to the CCR Rule. The operation and monitoring of all the CCR units are described further in the Comanche Station Groundwater Monitoring System Certification (HDR, 2018).

2.1 Hydrogeology

Comanche Station is underlain by unconsolidated colluvium consisting of stiff clays and silts. Typical colluvium thickness is approximately 20 feet but ranges between 5 and 75 feet (Woodward-Clyde, 1987; URS, 2005). At the southern property boundary and west and south of the CCR landfill, alluvial sand and gravels are interbedded with the colluvium. The colluvium overlies the Pierre Shale bedrock at the Comanche Station. The Pierre Shale is a low-permeability shale deposit that is 1,450 feet thick in this area. It consists of primarily bentonitic shales, with some minor chalk and limestone deposits interbedded within the shale and has a

measured hydraulic conductivity of 3E-10 to 3E-07 centimeters per second (cm/sec). Underlying the shale deposits is the Dakota Sandstone Formation, which is recognized as a regional aquifer in this area.

Multiple hydrogeologic studies completed at the Comanche site concluded that the shale deposit beneath the site is effectively impermeable. Based on this conceptual site model the monitoring well network prior to 2020 was established to monitor the colluvium, with screened intervals in the colluvium and well bottoms at the colluvium/shale contact. Consistent with prior studies, the shallow unconsolidated colluvium deposits beneath the site were observed by HDR between 2015 and 2020 to be predominantly dry, with some isolated areas of perched water.

As discussed in more detail in the 2020 annual groundwater report and the 2021 updated groundwater monitoring system certification report, in 2020, PSCo conducted an investigation to further characterize the Pierre Shale (HDR, 2021; HDR, 2021b). Borings were completed using core drilling and advanced through the weathered shale and into the consolidated shale. The data from this investigation was incorporated into an updated hydrogeologic conceptual site model and in August and December 2020, new monitoring wells were installed primarily in the weathered shale around the Landfill, at the bottom ash pond, around the site perimeter, and to the northeast of the ponds. Monitoring in 2020 indicated that groundwater is present in the weathered shale and appears to have greater lateral continuity than that observed in the colluvium. Slug testing on the wells produced estimated hydraulic conductivity values resulting in a geomean hydraulic conductivity of 2.52E-04 cm/s in the weathered bedrock and geomean hydraulic conductivity of 4.07E-05 in the colluvium. The updated conceptual site model suggests that the uppermost groundwater beneath the site is in the weathered shale unit; however, in the vicinity of the ponds, there is groundwater observed in the colluvial screened wells. All other wells screened in the colluvium around the site, and geotechnical borings drilled into the colluvium indicate the colluvium is dry. As evidenced through core drilling around the site, the weathered shale is above unfractured, low permeability shale that is referred to as consolidated shale. The thickness of the groundwater unit above the consolidated shale ranges from less than one foot (0.85 foot) to 24.69 feet.

Appendix A displays groundwater contour maps in January, May, and December 2021. The contour maps display the potentiometric surface contours for wells screened in the weathered shale. Evaluating the groundwater elevations in wells screened in the weathered shale across the site, a continuous groundwater surface appears to flow south and southeast under the Bottom Ash Pond and Landfill, respectively. In response to the observations recorded in 2020 from wells completed in weathered shale and the identification of an upper groundwater unit above the consolidated shale, PSCo installed four additional monitoring wells in November 2021, that will be added to the Groundwater Monitoring Network Certification report in 2022 (**Figure 2**):

- MW-7 – A downgradient well screened in the weathered shale, located at the southeast side of the Landfill;
- W-3B - A downgradient well screened in the weathered shale, located at the south side of the Bottom Ash Pond;

- W-6B - A downgradient well screened in the weathered shale, located at the southeast side of the Bottom Ash Pond; and
- W-2C - An upgradient well screened in the weathered shale, located northeast of the Bottom Ash Pond, adjacent to existing upgradient well W-2A.

The groundwater travel time to the Dakota Sandstone aquifer has not changed in the new conceptual site model. With regard to horizontal flow of perched water, the distance from the Bottom Ash Pond to the St. Charles River is approximately 4,000 feet and the nearest potentially downgradient offsite domestic wells are located south and southeast of the Station at approximately 3,300 and 3,950 feet, both screened in alluvium associated with the St. Charles River. Assuming the hydraulic conductivity of the weathered shale as measured in slug tests in 2020 ($2.52E10^{-4}$ cm/s), the potential for lateral migration of groundwater is 50 feet per year. Therefore, it would take on the order of 70 to 140 years for groundwater under the Bottom Ash Pond to travel to the nearest domestic well or 85 to 169 years to reach the St. Charles River.

2.2 Monitoring Well Network

Wells were installed in 2020 and 2021 screened in the weathered shale and the conceptual site model has been updated such that the well network monitors the uppermost groundwater in the weathered shale. Some existing wells screened in colluvium also remain in the monitoring network.

PSCo published an update Groundwater Monitoring Network Certification on June 28, 2021, which includes wells installed in August and December 2020. In November 2021, PSCo installed four monitoring wells that will be added to the certified groundwater monitoring network, MW-7, W-2C, W-3B, and W-6B. An updated Groundwater Monitoring System Certification will be developed in early 2022. There were no wells abandoned or modified in 2021. The well network for each facility is described below.

2.2.1 Landfill/ Ash Disposal Facility

In November 2021, one new well for the landfill, MW-7, was installed at the southeast edge of the landfill waste boundary (**Figure 2**). The well was screened in the weathered shale and serves as a downgradient well for the landfill.

There are ten wells in the certified groundwater monitoring network for the landfill, but only seven of them produce water: MW-1B, MW-2B, MW-3, MW-4B, MW-5, MW-6, and MW-7 (**Figure 2**) (HDR, 2021). All of these wells are screened to collect groundwater in the weathered shale. Wells MW-1, MW-2, and MW-4 are also in the network of wells but are screened in the colluvium above the weathered shale and are consistently dry. However, they continue to be monitored. The upgradient background wells are MW-3 and MW-5, and the primary downgradient wells are MW-1B, MW-2B, and MW-7. Wells MW-4B and MW-6 are still in the monitoring network, but groundwater flow directions indicate these two wells are upgradient to cross gradient of the landfill.

2.2.2 Impoundment/ Bottom Ash Pond

The certified monitoring network for the Bottom Ash Impoundment includes the following wells (**Figure 2**):

- Background wells: W-2, W-2A, W-2C
- Downgradient compliance wells (wells to evaluate for potential impacts at and near the CCR unit waste boundary): W-1, W-3, W-3B, W-4, W-5, W-5B, W-6, W-6B

Background Wells

W-2 (installed in 1997) is located northeast of the settling ponds near the eastern boundary of the property and was evaluated as a potential upgradient background well; however, it is screened in colluvium and has historically been dry (Error! Reference source not found.).

Well W-2A was drilled in August 2020 and is screened in and monitors groundwater in the weathered shale upgradient of the ponds and therefore is the background well for the Bottom Ash Impoundment. Well W-2B (**Figure 2**) is screened in the consolidated shale and therefore the water quality is not appropriate for comparison against the upper groundwater and is not part of the certified monitoring well network.

Well W-2C serves as an additional background well for the Bottom Ash Pond. It is adjacent to the existing background well W-2A, also screened in the weathered shale. This new monitoring well was installed in response to observations that the W-2A filter pack extending into the shale-derived clay above the weathered shale. However, because groundwater levels are within the screened interval of W-2A in weathered shale PSCo anticipates the water quality results from W-2A and W-2C will be very similar.

Downgradient Wells

Wells W-1 and W-3 (installed in 1997) and W-4, W-5, and W-6 (installed in 2015) are screened in the colluvium but remain in the monitoring network as downgradient wells for the Bottom Ash Impoundment. These wells will continue to be monitored because they provide water quality of the uppermost groundwater around the pond and insight into the potential for pond leakage to impact groundwater.

Well W-5B was drilled in December 2020, adjacent to W-5 but deeper and screened in the weathered shale to evaluate groundwater quality differences between colluvium and weathered shale. W-5B was added to the certified network to monitor groundwater in the weathered shale.

Wells W-3B and W-6B were installed in November 2021 as additional downgradient waste boundary wells screened in the weathered shale. They are located close to existing colluvial wells W-3 and W-6.

Wells that are historically dry (W-2 and often W-4) continue to be checked for water levels and if sufficient water is available for sampling these wells are sampled.

2.2.3 Perimeter/Characterization Wells

No new perimeter or characterization wells were installed in 2021. The following section described the existing perimeter wells in monitoring network. All of these wells monitor groundwater conditions in the weathered shale away from the CCR units at or near the site

property boundaries in the downgradient flow direction to the south and east. Error! Reference source not found.).

Monitoring wells W-7, W-8A, and W-8B were installed in August 2020, and W-9, W-11, W-12, W-13 were installed in December 2020. Wells W-7 and W-9 are screened in the weathered shale. W-8A was screened in the alluvium and weathered shale, but was found to be dry. W-8B was drilled adjacent to W-8A and was screened in the consolidated shale, also found to be effectively dry. Wells W-11, W-12, and W-13 were installed south of the Raw Water Pond and in the direction of the southern property boundary. These wells (W-11 through W-13) are all screened in the weathered shale. Well W-13 was found to be dry.

Test hole borings TH-184 and TH-185 were installed in 1987 for a geotechnical study and field located in 2020 just south of W-11, W-12, and W-13, and will be monitored for water levels (Error! Reference source not found.). These two wells are screened in the colluvium and are dry. These wells along the southern edge capture water quality at a greater distance from the CCR units to evaluate potential effects of the units on surrounding areas to the south and southeast.

Wells W-10A and W-10B were drilled in December 2020 to evaluate depth to groundwater as a geotechnical design constraint for new facilities planned for construction in 2021. Well W-10A is screened in the colluvium and is dry, and W-10B is screened in weathered shale and has groundwater. The location provides valuable additional data for the groundwater potentiometric mapping and will be monitored for water levels only.

PSCo has updated the certified groundwater monitoring network to include some perimeter wells in order to evaluate the potential for groundwater moving offsite. The following perimeter wells are included in the certified monitoring network:

- Wells to evaluate water quality further downgradient of the Bottom Ash Pond compliance wells: W-7, W-8A, W-9, W-11, W-12, and W-13.
- Wells to evaluate water quality further downgradient of the Landfill compliance wells: W-11, W-12, and W-13 (these three wells are also compared to the Bottom Ash Pond background).
- W-10A, W-10B, and test hole borings TH-184 and TH-185 will be monitored for water levels only.

Wells W-8A and W-13 are historically dry and will continue to be checked for water levels and if sufficient water is available for sampling these wells will be sampled. Well W-8B is not included in the network because it was screened in the consolidated shale and was effectively dry.

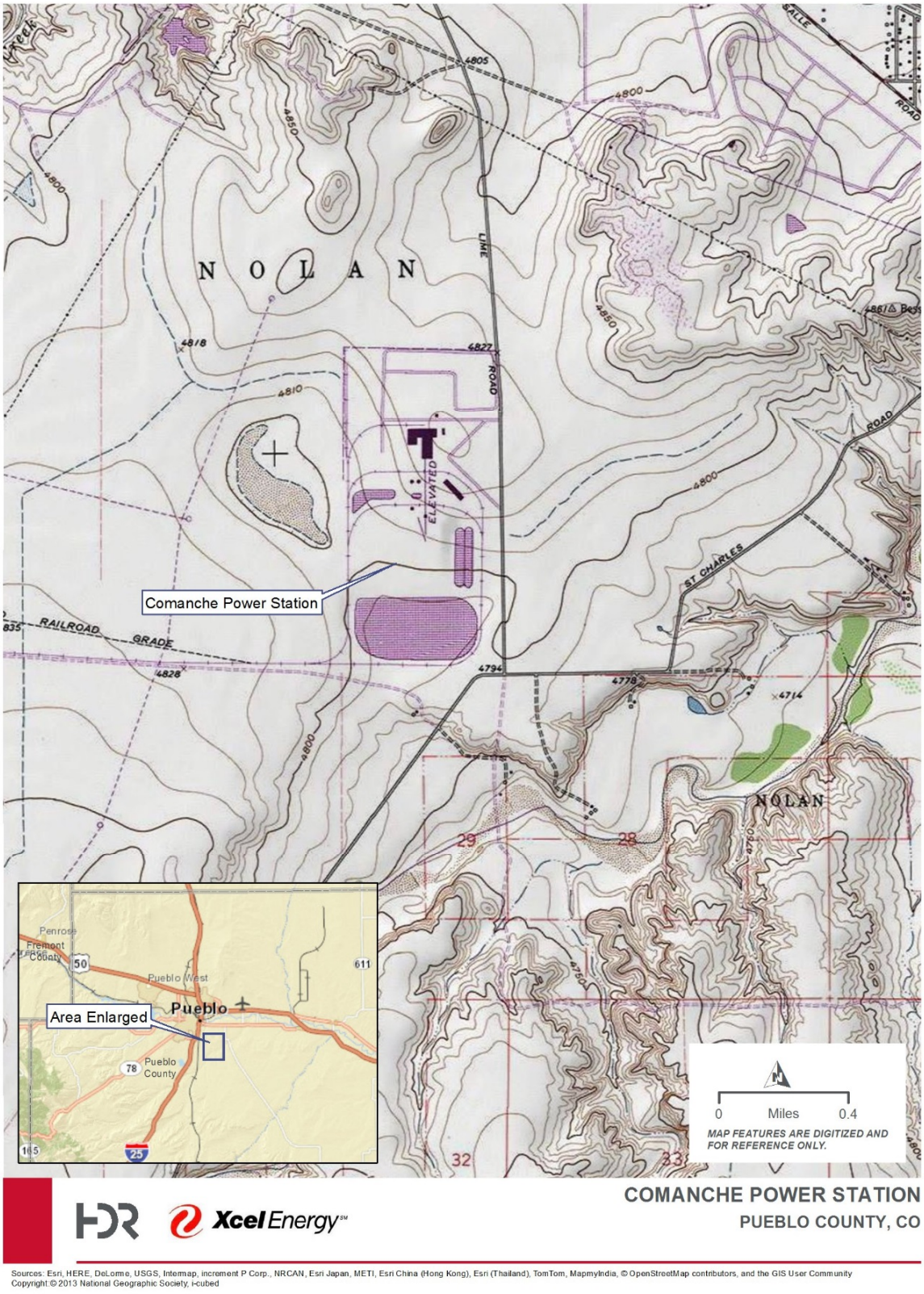


Figure 1. Vicinity Map for Comanche Station

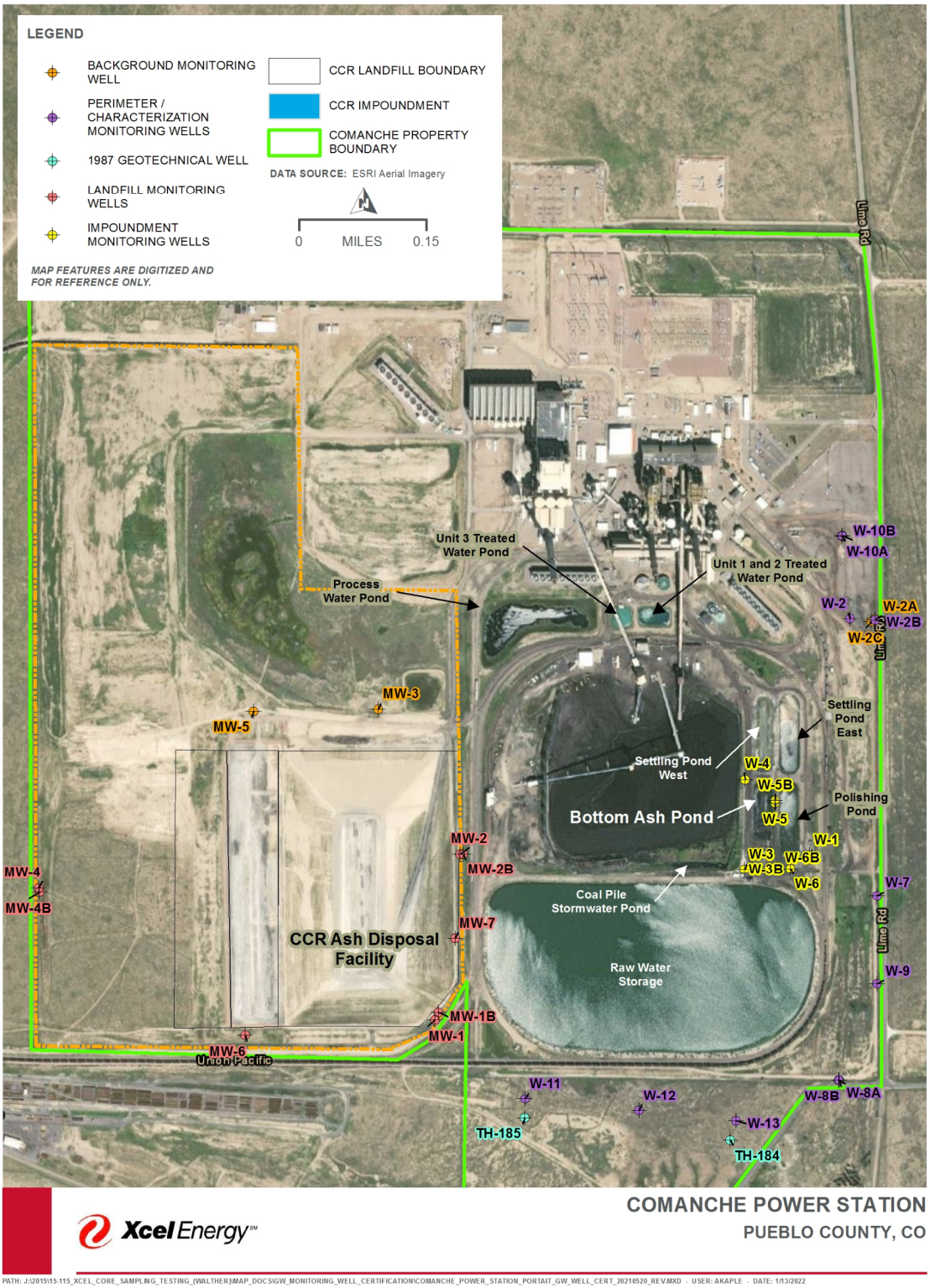


Figure 2. Comanche Station – CCR units and monitoring well location map.

3.0 Monitoring

3.1 Frequency

Groundwater monitoring for both CCR units was conducted quarterly between fourth quarter 2015 and third quarter 2017 to represent background water quality in the colluvial groundwater, based upon the original conceptual site model. Beginning in 2020, based upon the updated conceptual site model, monitoring has included the wells in the updated network that monitor groundwater in the weathered shale. Eight rounds of background sampling were collected from all non-dry wells in the updated certified network from August 2020 through December 2020 and analyzed for all Appendix III and IV constituents plus TSS (**Table 1**), and background threshold values (BTVs) were developed.

3.1.1 Landfill/ Ash Disposal Facility

The first detection monitoring sample event at the landfill occurred in January 2021. In the May 26, 2021 PSCo memorandum, *Determination of Statistically Significant Increases over Background per 257.93(h)(2)*, concentrations of Appendix III COIs from downgradient monitoring wells at the Landfill were compared against the BTVs and shown to have SSIs over BTVs (upper prediction limit). The SSIs triggered the assessment monitoring program but PSCo completed an Alternative Source Determination for the Landfill. Detection monitoring continues semi-annually to sample all of the monitoring wells around the landfill for Appendix III constituents (**Table 1**). **Table 2** provides the well identification, number of samples collected, dates samples were collected in 2021, and the CCR Rule monitoring purpose.

Table 1. Groundwater quality parameters	
Appendix III Constituents	**Appendix IV Constituents**
Boron	Antimony
Calcium	Arsenic
Chloride	Barium
Fluoride	Beryllium
pH	Cadmium
Sulfate	Chromium
Total Dissolved Solids (TDS)	Cobalt
Additional Parameters	Fluoride
Total Suspended Solids (TSS)	Lead
	Lithium
	Mercury
	Molybdenum
	Selenium
	Thallium
	Radium 226 and 228 combined

Table 2. Number and dates of groundwater samples collected for each well and the required monitoring programs for the Comanche Landfill/ Ash Disposal Facility (257.90(e)(3))

Monitoring Well I.D.[1]	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
MW-1	Downgradient	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring Event before ASD complete
		May 25, 2021*	Second Assessment Monitoring Event before ASD complete
		November 18, 2021*	Detection Monitoring
MW-1B	Downgradient	January 12, 2021	Detection Monitoring
		April 13, 2021	Initial Assessment Monitoring Event before ASD complete
		May 25, 2021	Second Assessment Monitoring Event before ASD complete
		November 18, 2021	Detection Monitoring
MW-2	Downgradient	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring Event before ASD complete
		May 26, 2021*	Second Assessment Monitoring Event before ASD complete
		November 18, 2021*	Detection Monitoring
MW-2B	Downgradient	January 13, 2021	Detection Monitoring
		April 9, 2021	Initial Assessment Monitoring Event before ASD complete
		May 26, 2021	Second Assessment Monitoring Event before ASD complete
		November 18, 2021	Detection Monitoring
MW-3	Upgradient / Background	January 12, 2021	Detection Monitoring
		April 7, 2021	Initial Assessment Monitoring Event before ASD complete
		May 25, 2021	Second Assessment Monitoring Event before ASD complete
		November 16, 2021	Detection Monitoring
MW-4	Cross-gradient	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring Event before ASD complete
		May 25, 2021*	Second Assessment Monitoring Event before ASD complete
		November 18, 2021*	Detection Monitoring
MW-4B	Cross-gradient	January 13, 2021	Detection Monitoring
		April 13, 2021	Initial Assessment Monitoring Event before ASD complete
		May 25, 2021	Second Assessment Monitoring Event before ASD complete
		November 18, 2021	Detection Monitoring
MW-5	Upgradient / Background	January 12, 2021	Detection Monitoring
		April 12, 2021	Initial Assessment Monitoring Event before ASD complete

Table 2. Number and dates of groundwater samples collected for each well and the required monitoring programs for the Comanche Landfill/ Ash Disposal Facility (257.90(e)(3))

Monitoring Well I.D.[1]	Well Location	Dates Monitored	CCR Rule Monitoring Purpose
		May 26, 2021	Second Assessment Monitoring Event before ASD complete
		November 18, 2021	Detection Monitoring
MW-6	Cross-gradient	January 12, 2021	Detection Monitoring
		April 6, 2021	Initial Assessment Monitoring Event before ASD complete
		May 26, 2021	Second Assessment Monitoring Event before ASD complete
		November 18, 2021	Detection Monitoring
MW-7 (Installed November 11, 2021)	Downgradient	December 8, 2021	Detection Monitoring

[1]MW-1B, MW-2B, and MW-4B were installed adjacent to MW-1, MW-2, and MW-4, respectively, in August 2020. The wells were drilled deeper because the original wells were historically dry. The water levels of the original wells were measured if water was present, but they were not sampled and remained dry.
*Well was monitored and found to be dry, no sample could be collected

3.1.2 Bottom Ash Pond

The first detection monitoring sample event at the Bottom Ash Pond occurred in January 2021. In the May 26, 2021 PSCo memorandum, *Determination of Statistically Significant Increases over Background per 257.93(h)(2)*, concentrations of Appendix III COIs from downgradient monitoring wells at the Bottom Ash Impoundment were compared against the BTVs and shown to have SSIs over BTVs (upper prediction limit). The SSIs triggered the assessment monitoring program for the Bottom Ash Pond. The initial assessment monitoring event for the Bottom Ash Pond was completed in April 2021 to sample all of the monitoring wells for Appendix IV constituents (**Table 1**). In May 2021, the second assessment monitoring samples were collected from Bottom Ash Pond wells. Samples were analyzed for Appendix III and detected Appendix IV COIs plus TSS. **Table 2** provides the well identification, number of samples collected, dates samples were collected in 2021, and the CCR Rule monitoring purpose.

Table 3. Number and dates of groundwater samples collected for each well and the required monitoring programs for the Comanche Bottom Ash Impoundment (257.90(e)(3))			
Monitoring Well I.D.	**Well Location**	**Dates Monitored**	**CCR Rule Monitoring Purpose**
W-1	Downgradient	January 14, 2021	Detection Monitoring
		April 7, 2021	Initial Assessment Monitoring
		June 2, 2021	Semi-Annual Assessment Monitoring Event
		December 8, 2021	Annual Assessment Monitoring Event
W-2[1]	Upgradient / Background	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring
		May 25, 2021*	Semi-Annual Assessment Monitoring Event
		November 29, 2021*	Annual Assessment Monitoring Event
W-2A	Upgradient / Background	January 13, 2021	Detection Monitoring
		April 6, 2021	Initial Assessment Monitoring
		May 26, 2021	Semi-Annual Assessment Monitoring Event
		November 30, 2021	Annual Assessment Monitoring Event
W-2B	Site-wide Characterization	January 13, 2021*	Characterization Monitoring
		April 7, 2021	Characterization Monitoring
		May 26, 2021	Characterization Monitoring
		November 29, 2021*	Characterization Monitoring
W-2C (Installed November 8, 2021)	Upgradient / Background	December 9, 2021	Background Monitoring
W-3	Downgradient	January 13, 2021	Detection Monitoring
		April 9, 2021	Initial Assessment Monitoring
		May 27, 2021	Semi-Annual Assessment Monitoring Event
		December 1, 2021	Annual Assessment Monitoring Event
W-3B (Installed November 23, 2021)	Downgradient	December 10, 2021	Detection Monitoring
W-4	Cross-gradient	January 14, 2021	Detection Monitoring
		April 19, 2021	Initial Assessment Monitoring
		May 25, 2021*	Semi-Annual Assessment Monitoring Event
		November 29, 2021*	Annual Assessment Monitoring Event
W-5	Downgradient	January 12, 2021	Detection Monitoring
		April 6, 2021	Initial Assessment Monitoring
		June 2, 2021	Semi-Annual Assessment Monitoring Event
		December 1, 2021	Annual Assessment Monitoring Event

Table 3. Number and dates of groundwater samples collected for each well and the required monitoring programs for the Comanche Bottom Ash Impoundment (257.90(e)(3))			
Monitoring Well I.D.	**Well Location**	**Dates Monitored**	**CCR Rule Monitoring Purpose**
W-5B	Downgradient	January 14, 2021	Detection Monitoring
		April 9, 2021	Initial Assessment Monitoring
		May 26, 2021	Semi-Annual Assessment Monitoring Event
		December 1, 2021	Annual Assessment Monitoring Event
W-6	Downgradient	January 12, 2021	Detection Monitoring
		April 9, 2021	Initial Assessment Monitoring
		May 25, 2021	Semi-Annual Assessment Monitoring Event
		November 30, 2021	Annual Assessment Monitoring Event
W-6B (Installed November 9, 2021)	Downgradient	December 9, 2021	Detection Monitoring
W-7	Perimeter/ Characterization Well	January 14, 2021	Detection Monitoring
		April 12, 2021	Initial Assessment Monitoring
		May 27, 2021	Semi-Annual Assessment Monitoring Event
		December 1, 2021	Annual Assessment Monitoring Event
W-8A	Perimeter/ Characterization Well	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring
		May 25, 2021*	Semi-Annual Assessment Monitoring Event
		November 29, 2021*	Annual Assessment Monitoring Event
W-9	Perimeter/ Characterization Well	January 12, 2021	Detection Monitoring
		April 19, 2021	Initial Assessment Monitoring
		May 27, 2021	Semi-Annual Assessment Monitoring Event
		November 30, 2021	Annual Assessment Monitoring Event
W-10A	Perimeter/ Characterization Well	January 6, 2021*	Water Level
		April 6, 2021*	Water Level
		May 25, 2021*	Water Level
		November 29, 2021*	Water Level
W-10B	Perimeter/ Characterization Well	January 12, 2021	Water Level
		April 13, 2021	Water Level
		June 2, 2021	Water Level
		December 2, 2021	Water Level
W-11	Perimeter/ Characterization Well	January 13, 2021	Detection Monitoring

Table 3. Number and dates of groundwater samples collected for each well and the required monitoring programs for the Comanche Bottom Ash Impoundment (257.90(e)(3))			
Monitoring Well I.D.	**Well Location**	**Dates Monitored**	**CCR Rule Monitoring Purpose**
		April 12, 2021	Initial Assessment Monitoring
		May 27, 2021	Semi-Annual Assessment Monitoring Event
		December 2, 2021	Annual Assessment Monitoring Event
W-12	Perimeter/ Characterization Well	January 13, 2021	Detection Monitoring
		April 12, 2021	Initial Assessment Monitoring
		May 28, 2021	Semi-Annual Assessment Monitoring Event
		December 2, 2021	Annual Assessment Monitoring Event
W-13	Perimeter/ Characterization Well	January 6, 2021*	Detection Monitoring
		April 6, 2021*	Initial Assessment Monitoring
		May 25, 2021*	Semi-Annual Assessment Monitoring Event
		November 29, 2021*	Annual Assessment Monitoring Event

[1]W-2A was installed adjacent to W-2 in August 2020. The new well were drilled deeper because the original well was historically dry. Water levels and samples are taken from W-2 if/when enough water is present.
*Well was monitored and found to be dry, no sample could be collected.

3.2 Water Levels and Sample Collection

Water levels were collected in each well prior to sample collection. Groundwater sample collection protocols follow the Groundwater Sample Collection Standard Operating Procedure (SOP) (HDR, 2015). The water samples were collected using a bladder pump or bailer (only when water levels were too low in the well), and the equipment was decontaminated between wells following protocols outlined in the Sampling SOP. Each well was purged until field parameters stabilized in accordance with the sampling SOP. In accordance with the CCR Rule, groundwater samples were not field filtered. The field parameters of turbidity, pH, and temperature were measured using a YSI Professional Plus (or an equivalent) portable water quality instrument that was calibrated prior to use each day of sampling. The results of field measurements were recorded on a field data form, which is maintained as part of the field sampling records. If the turbidity of the groundwater during purging and stabilization remained above 10 NTU, a sample was collected for lab filtering and dissolved metals analysis. For quality control, one field duplicate sample and one field equipment blank sample was collected during each sample event. Water samples were delivered under Chain of Custody to Eurofins Test America in Denver, Colorado.

3.3 Analytical Testing

Groundwater samples for each type of monitoring were analyzed for the constituents of interest (COIs) shown in Appendix B. Background monitoring analyses include all the parameters in Appendices III and IV of CCR Rule Part 257, plus TSS. The laboratory analyzed matrix spike/matrix spike duplicates at a rate of 5 percent, per laboratory quality control procedures.

3.4 Data Validation and Data Management

Data validation and data management tasks were performed per the Data Management and Statistical Procedures Plan for Compliance with the Coal Combustion Residuals Rule (HDR, 2019a). Data validation was conducted to eliminate data that did not meet validation criteria and designate a data qualifier for any data quality limitation discovered.

All samples and quality control (QC) were reviewed and evaluated, and no samples were rejected. Most QC analyses were within reportable limits; however, when QC was outside control limits, samples were reported as estimated. Data analyses required minimal qualifications, and all data were usable, even when qualified.

Relative percent difference (RPD) results for field duplicate analyses were generally within the control limit criterion of 20%. Outliers were identified for metals (four instances), TSS (four instances), anions (one instance~~s~~), and radiochemical (two instances).

RPD results for lab duplicate analyses were generally within the control limit criterion of 20%. Outliers were identified for TDS (one instance), TSS (two instances), and pH (one instance). Laboratory Control Sample (LCS)/LCS duplicate recoveries were generally within control limits. Outliers were identified for Ra-228 (one instance, where recoveries were above the project control limits but associated sample results were non-detect). Matrix Spike/Duplicate (MS/MSD) recoveries were generally within control limits. Outliers were identified for anions (four instances) and metals (ten instances – seven of which were different metals from one MS/MSD analysis and the parent sample required qualification). LCS/LCSD RPDs were all within control limits except TSS in one instance. MS/MSD RPDs were generally within control limits. Outliers were identified for anions (one instance).

4.0 Monitoring Results

4.1 Water Levels and Groundwater Flow Direction

The water levels at monitoring wells were recorded during monitoring events and are shown in **Table 4**. Potentiometric contour maps were created for water level measurements collected from the wells in the existing monitoring network in January, May, and December 2021 (**Appendix A**). The groundwater flow direction in the weathered shale is generally south, though under the Landfill there is variability and flow appears to be coming from east, west, and north and heading south. Maps were made only using wells screened in the weathered shale.

Table 4. Groundwater elevations measured in 2021					
Well ID	**TOC Elevation (ft amsl)**	**CCR Unit**	**Groundwater Elevation (ft amsl) 11/29/2020-12/8/2021**	**Groundwater Elevation (ft amsl) Week of 5/25/202**	**Groundwater Elevation (ft amsl) Week of 1/6/2021**
MW-1	4806.73	Landfill	dry	dry	dry
MW-1B	4807.72	Landfill	4776.82	4776.49	4776.49
MW-2	4800.45	Landfill	dry	dry	dry
MW-2B	4801.72	Landfill	4783.7	4783.4	4783.4
MW-3	4798.45	Landfill	4790.6	4788.83	4788.83
MW-4	4826.47	Landfill	dry	dry	dry
MW-4B	4826.41	Landfill	4788.46	4788.06	4788.06
MW-5	4806.97	Landfill	4779.95	4779.78	4779.78
MW-6	4823.08	Landfill	4791.90	4791.48	4791.48
MW-7	4803.2	Landfill	4783.32	NA	NA
W-1	4801.37	Bottom Ash Pond	4790.965	4791.57	4791.19
W-2	4829.09	Bottom Ash Pond	dry	dry	dry
W-2A	4827.86	Bottom Ash Pond	4801.16	4800.84	4800.79
W-2B	4827.80	Bottom Ash Pond	4791.05	4791.44	4775.54
W-2C	4827.78	Bottom Ash Pond	4800.08	NA	NA
W-3	4807.41	Bottom Ash Pond	4793.51	4795.61	4795.3
W-3B	4810.29	Bottom Ash Pond	4793.24	NA	NA
W-4	4812.47	Bottom Ash Pond	dry	4785.49	4785.88
W-5	4811.89	Bottom Ash Pond	4802.44	4801.37	4803.82
W-5B	4810.62	Bottom Ash Pond	4800.57	4801.04	4799.31
W-6	4807.46	Bottom Ash Pond	4797.45	4798.04	4797.79
W-6B	4807.47	Bottom Ash Pond	4793.07	NA	NA
W-7	4797.54	Perimeter/ Characterization	4790.54	4789.96	4789.8
W-8A	4804.26	Perimeter/ Characterization	dry	dry	dry
W-9	4801.78	Perimeter/ Characterization	4765.91	4765.72	4765.28
W-10A	4835.21	Perimeter/ Characterization	dry	dry	dry
W-10B	4835.22	Perimeter/ Characterization	4807.31	4807.07	4807.19
W-11	4795.99	Perimeter/ Characterization	4772.5	4772.5	4772.38
W-12	4791.65	Perimeter/ Characterization	4769.75	4769.56	4769.72
W-13	4801.96	Perimeter/ Characterization	dry	dry	dry

[1]Wells MW-7, W-2C, W-3B, and W-6B were installed in Nov 2021.

4.2 Water Quality

4.2.1 Landfill/ Ash Disposal Facility

Eight rounds of background groundwater sampling were completed in the updated monitoring network between August and December 2020. Samples were analyzed for Appendix III and IV parameters, plus TSS. Background data from wells MW-3 and MW-5 were pooled to develop the statistical background threshold values (BTVs) for comparing data from the downgradient Landfill wells only. The background sampling and statistical evaluation is described in detail in the Background Water Quality Statistical Certification from June 9, 2021. The first detection monitoring event was conducted on January 6, 2021. Laboratory reports for 2021 are provided in **Appendix C**. In the May 26, 2021 PSCo memorandum, Determination of Statistically Significant Increases over Background per 257.93(h)(2), concentrations of Appendix III COIs from each downgradient monitoring well at the landfill were compared against the BTVs and calcium at MW-4B was found to have an SSI over the BTV. This SSIs triggered the assessment monitoring program for the Landfill.

As stipulated in CCR Rule 257.95(b), within 90 days of the SSI determination an initial assessment monitoring event must be completed. This event was completed in April 2021 and consisted of sampling the Landfill wells for all Appendix IV constituents. Laboratory reports for 2021 are provided in **Appendix C**. In May 2021, the first semi-annual assessment monitoring samples were collected from all of the Landfill monitoring wells with water and analyzed for Appendix III and detected Appendix IV COIs plus TSS.

On August 24, 2021 PSCo completed an Alternative Source Determination (ASD) that described that the SSI of calcium at MW-4B observed during detection monitoring could not be from the Landfill due to the groundwater flow gradient at the Landfill. The ASD also concluded that the source of the calcium is probably related to the different lithology (gypsum) in the screened interval at that well location. Therefore, the Landfill's current status is in detection monitoring. The Appendix III parameters at the Landfill wells during the late May early June sample event was compared to BTVs and all concentrations of Appendix III COIs were below the BTVs, with the exception of calcium at MW-4B.

Between November 18 and December 8, 2021, another semi-annual detection monitoring event was completed at the Landfill. All concentrations of Appendix III COIs were below the BTVs, with the exception of calcium at MW-4B. This parameter at this well is anticipated to consistently have the SSI over BTV for the reasons described in the ASD. Since MW-4B is a cross-gradient well, PSCo intends to revise the network certification to monitor MW-4B only for water levels.

4.2.2 Impoundment

Eight rounds of background groundwater sampling were completed in the updated monitoring network between August and December 2020. Samples were analyzed for Appendix III and IV parameters, plus TSS. Background data from well W-2A was used to develop the statistical background threshold values (BTVs) for comparing data from the downgradient impoundment wells only. The background sampling and statistical evaluation is described in detail in the Background Water Quality Statistical Certification from June 9, 2021. The first detection

monitoring event was conducted on January 6, 2021. Laboratory reports for 2021 are provided in **Appendix C**. In the May 26, 2021 PSCo memorandum, Determination of Statistically Significant Increases over Background per 257.93(h)(2), concentrations of Appendix III COIs from each downgradient monitoring well at the impoundment were compared against the BTVs and several COIs were found to have an SSI over the BTV. At wells W-1 and W-6 there were SSIs for boron and pH and at W-3, W-4, W-5, and W-5B there was an SSI for pH. This SSIs triggered the assessment monitoring program for the impoundment.

As stipulated in CCR Rule 257.95(b), within 90 days of the SSI determination an initial assessment monitoring event must be completed. This event was completed in April 2021 and consisted of sampling the impoundment wells for all Appendix IV constituents. CCR Rule 257.95(h) describes that GPS must be established for each constituent in Appendix IV detected in the groundwater. Results from the April 2021 sample event identified the detected Appendix IV parameters. All Appendix IV parameters were detected in at least one well with the exception of beryllium and mercury. Therefore, GPS are established for all Appendix IV COIs except beryllium and mercury. The upper tolerance limits (UTLs) for the detected Appendix IV constituents serve as the background threshold values (BTV) for assessment monitoring and are displayed in **Table 5**. The Unified Guidance has recommended that the UTL be used as a fixed value similar to a groundwater protection standard where an MCL does not exist for the constituent at the location (USEPA, 2009). The UTL was established based on the eight background sample events at the upgradient monitoring well (W-2A). In accordance with CCR Rule 257.95(h), GPS were established for each detected Appendix IV COI. For each detected COI, **Table 5** lists the EPA established MCL from 40 CFR 141.62 and 141.66, the BTV for the Comanche Bottom Ash Pond, and the GPS. The GPS for each COI is the higher of the two: MCL or BTV.

Table 5. Groundwater Protection Standards for Detected Appendix IV COIs at the Comanche Bottom Ash Pond

Constituent	Unit	MCL (dissolved metals concentration)	BTV (UTL) (total metals concentration)	GPS (total metals concentration)
Antimony	mg/l	0.006	0.000890	0.006
Arsenic	mg/l	0.01	0.0550	0.0550
Barium	mg/l	2	0.0925	2
Cadmium	mg/l	0.005	0.00588	0.00588
Chromium	mg/l	0.1	0.0535	0.1
Cobalt	mg/l	0.006*	0.0102	0.0102
Fluoride	mg/l	4.0	735	735
Lead	mg/l	0.015	0.0132	0.015
Lithium	mg/l	0.040*	5.51	5.51
Molybdenum	mg/l	0.1*	0.0163	0.1
Radium-226-228	pci/l	5^	8.52	8.52
Selenium	mg/l	0.05	3.67	3.67
Thallium	mg/l	0.002	0.00645	0.00645

*EPA adopted health-based value in place of MCL.
^Colorado Water Quality Regulation

On May 25-June 2, 2021, a semi-annual assessment monitoring event collected groundwater samples from all of the Bottom Ash Pond wells and the perimeter wells. Samples were analyzed for Appendix III and detected Appendix IV COIs. In accordance with CCR Rule 257.95(e), downgradient well concentrations were compared against background threshold values. Some COIs were found to be above BTVs. In accordance with CCR Rule 257.95(f), downgradient well concentrations were compared against GPS and were found to exceed GPS. Therefore, following CCR Rule 257.95(g), downgradient well concentrations were compared against GPS to determine “if one or more constituents in appendix IV to this part are detected at statistically significant levels above the groundwater protection standard.”

To determine if an exceedance of a GPS was statistically significant, the 95% lower confidence limit (95LCL) was calculated for each of the downgradient wells for each of the detected Appendix IV COIs. The data used to calculate the lower confidence limit (LCL) was an accumulation of all samples collected at these wells since the establishment of the groundwater monitoring system. The results of the LCL comparison against GPS are provided in **Table 6**. Where an LCL is greater than the GPS the concentration is at a statistically significant level (SSL) over GPS. Downgradient well W-6 (colluvial well) has a 95LCL for molybdenum that exceeds the GPS and perimeter well W-7 has a 95LCL for cobalt that exceeds the GPS. Perimeter well, W-12, consistently had GPS concentration exceedances of cobalt; however, there were only three sample events after the May/June sample event and therefore no LCL was calculated.

Table 6. Lower Confidence Limit from May/June 2021 Sample Event Compared to Groundwater Protection Standard for the only Detected Appendix IV COIs that Exceed the GPS			
Monitoring Well	**Appendix IV Constituent**	Cobalt	Molybdenum
	Unit	mg/l	mg/l
	GPS	0.0102	0.1
W-6 (Colluvial Downgradient Well)	**95% LCL**	--	0.298
W-7	**95% LCL**	0.016	--

On November 29 to December 9, 2021, another semi-annual assessment monitoring event collected groundwater samples from all of the Bottom Ash Pond wells and the perimeter wells. Samples were analyzed for Appendix III and detected Appendix IV COIs. In accordance with CCR Rule 257.95(e), downgradient well concentrations were compared against background threshold values. Some COIs were found to be above BTVs. In accordance with CCR Rule 257.95(f), downgradient well concentrations were compared against GPS and were found to exceed GPS. Therefore, following CCR Rule 257.95(g), downgradient well concentrations were compared against GPS to determine "if one or more constituents in Appendix IV to this part are detected at statistically significant levels above the groundwater protection standard." The results of the LCL comparison against GPS are provided in **Table 7**. Downgradient well W-6 (colluvial well) has an SSL of molybdenum over GPS. Perimeter well W-7 has an SSL of cobalt over GPS. Concentrations of cobalt are consistently over GPS at perimeter well W-12 after four sample events.

Table 7. Lower Confidence Limit from Nov/Dec 2021 Sample Event Compared to Groundwater Protection Standard for the only Detected Appendix IV COI that Exceeds GPS			
Monitoring Well	**Appendix IV Constituent**	Cobalt	Molybdenum
	Unit	mg/l	mg/l
	GPS	0.0102	0.1
W-6 (Colluvial Downgradient Well)	**95% LCL**	--	0.296
W-7 (Perimeter Well)	**95% LCL**	0.0160	--

Newly installed downgradient wells at the impoundment waste boundary, W-3B and W-6B, were not included in the statistical analysis because only one sample event occurred in 2021 in late November/early December. However, there were boron concentration exceedances over BTV at these two wells that are screened in weathered shale. For Appendix IV COIs, both wells also had one-time concentrations over GPS for cadmium and cobalt.

5.0 Summary

The following observations are based on CCR Rule compliance monitoring data collected during 2021:

Landfill/ Ash Disposal Facility

- A total of ten monitoring wells are in the certified Landfill monitoring network for CCR compliance: MW-1 through MW-7, plus MW-1B, MW-2B, and MW-4B.
- One well, MW-7 was installed in November 2021 downgradient of the Landfill waste boundary in the weathered shale.
- Detection monitoring sampling was collected from all non-dry wells in January, April, May/June, and November/December 2021. On each sample date the only SSI detected was calcium in MW-4B. PSCo developed an ASD on August 24, 2021 that described that there was an alternative source for calcium in MW-4B, and it was not from the Landfill.
- In 2022, PSCo will continue detection monitoring at the Landfill.
- In 2022 the Groundwater Monitoring Network Certification will be updated to reflect MW-7 (drilled in 2021) being added into the certified monitoring network.

Bottom Ash Pond/Impoundment

- Eleven wells are in the certified monitoring network for CCR compliance of the bottom ash impoundment: W-1, W-2, W-2A, W-2C, W-3, W-3B, W-4, W-5, W-5B, W-6, and W-6B; plus six perimeter wells: W-7, W-8A, W-9, W-11, W-12, and W-13; plus additional water level only wells.
- PSCo installed three new wells at the impoundment monitoring network in November 2021, W-2C (background), W-3B, and W-6B.
- Detection monitoring was completed in January 2021 and SSIs were identified.
- GPS were developed for the impoundment.
- Assessment monitoring was completed in April 2021 and again in May/June 2021. SSLs of molybdenum at W-6 and SSLs of cobalt at perimeter well W-7 were determined in both sample events. Perimeter well W-12 also has concentrations of cobalt consistently higher than GPS.
- In 2022, PSCo will complete background monitoring at new monitoring well W-2C and will continue assessment monitoring at the Bottom Ash Pond.
- In 2022, PSCo will publish an Assessment of Corrective Measures.
- In 2022 the Groundwater Monitoring Network Certification will be updated to reflect the new wells drilled in 2021 that are being added into the certified monitoring network.

6.0 References

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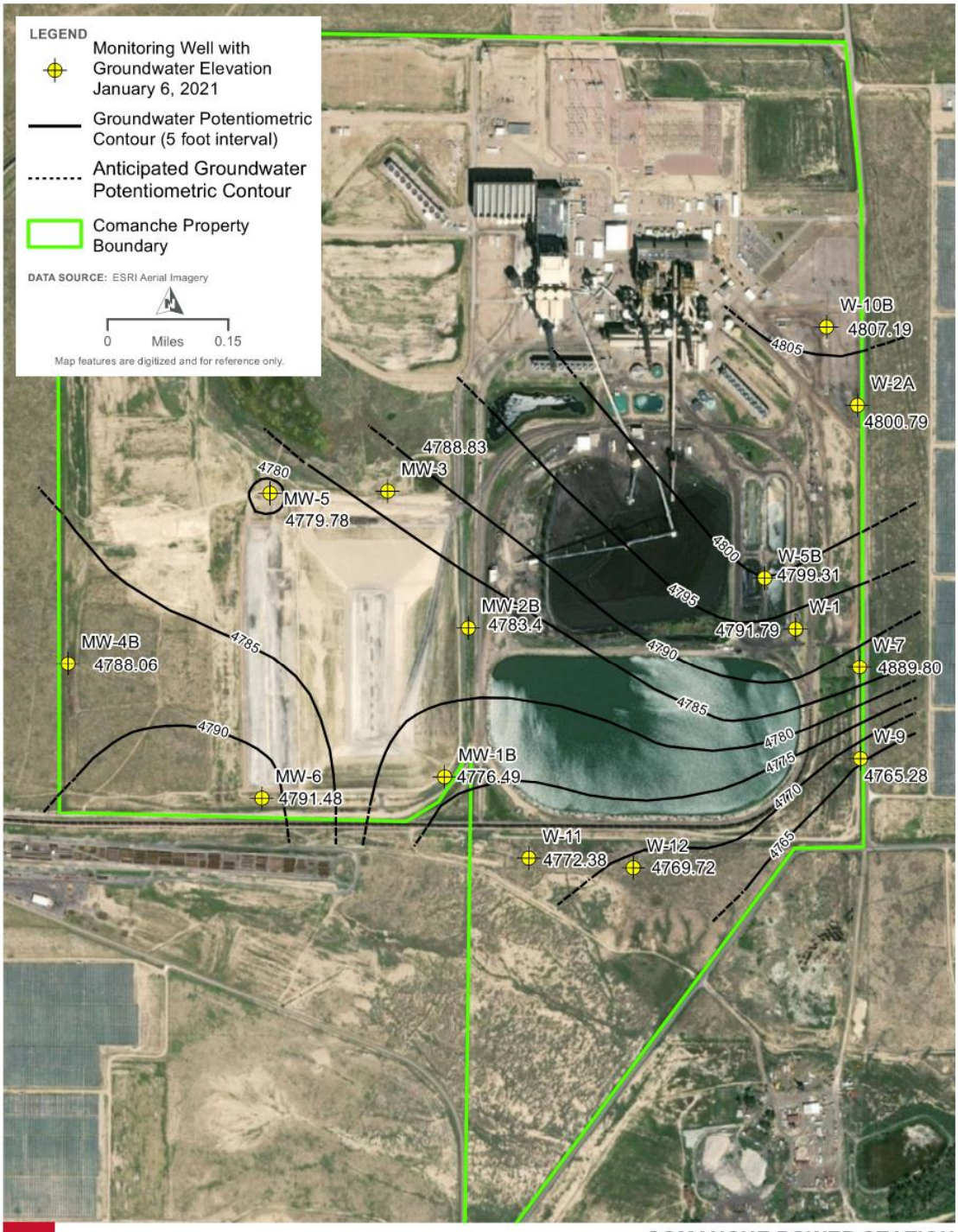
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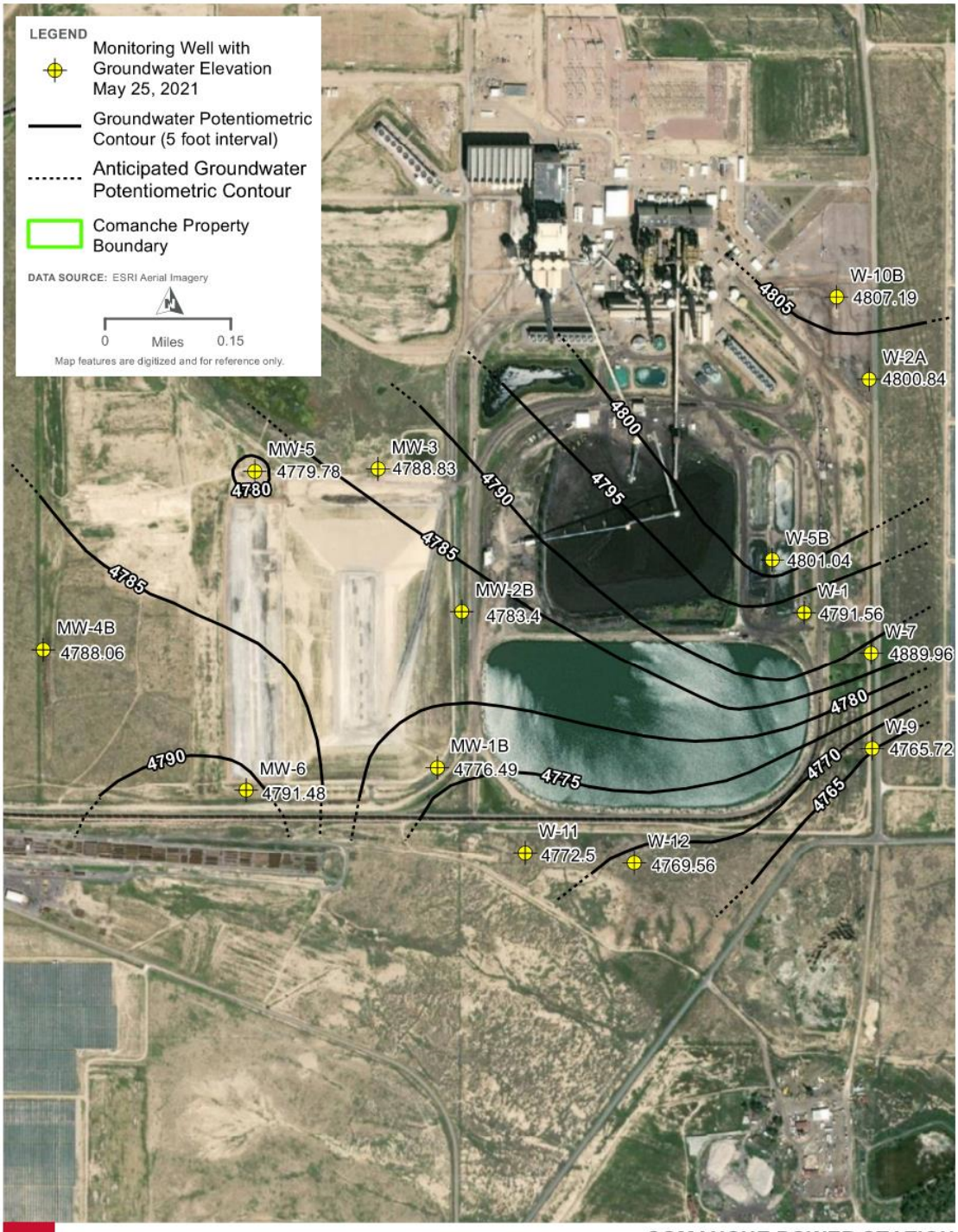
Appendix A

Potentiometric Surface Maps



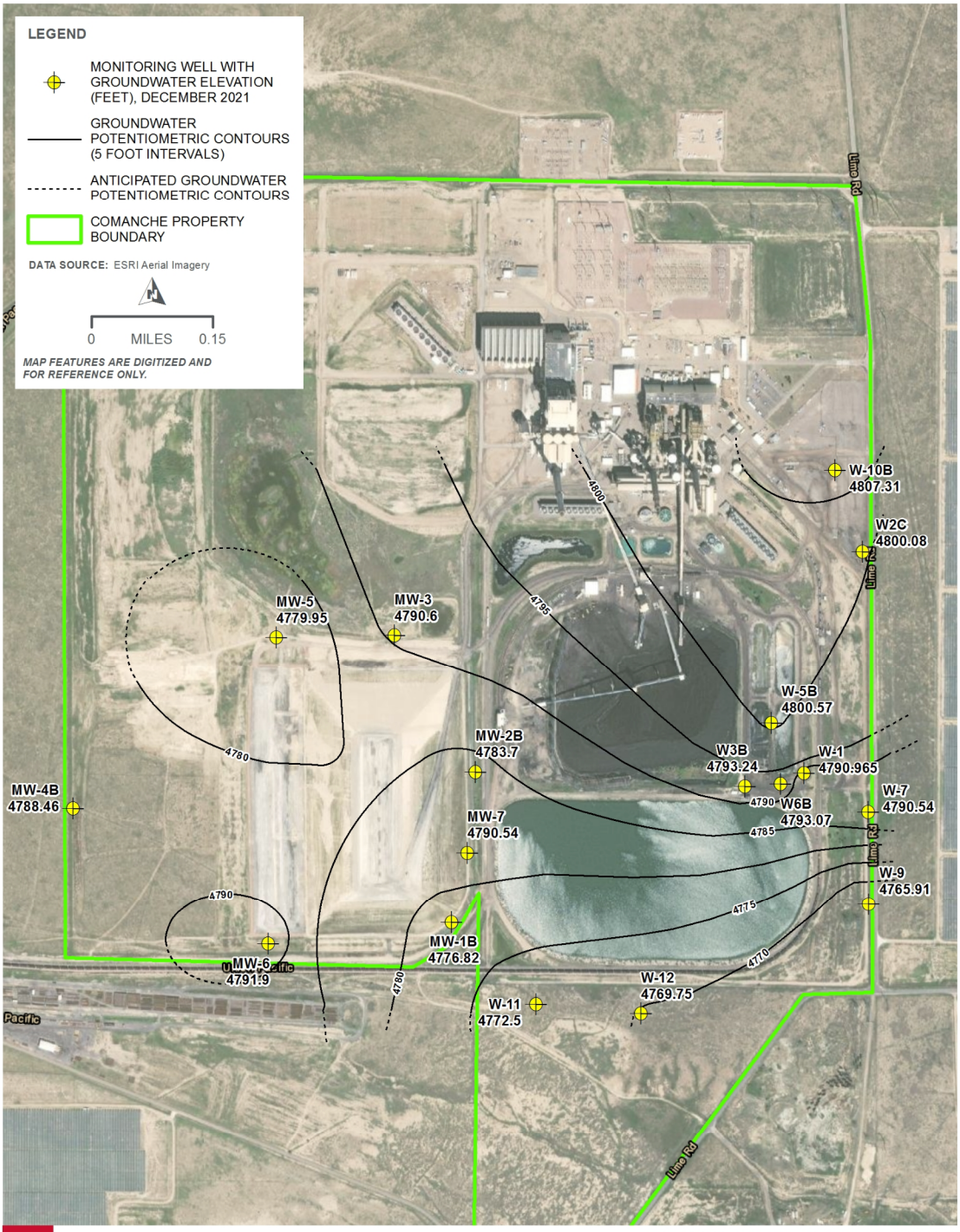
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PUEBLO COUNTY, CO

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Appendix B

Monitoring types to comply with specific CCR Rule requirements

Monitoring types to comply with specific CCR Rule requirements			
Type of Monitoring	**Description**	**CCR Rule Reference**	**Constituents Analyzed**
Background Monitoring	Development of background water quality conditions for Appendix III and Appendix IV COIs	257.94(b)	Appendix III and IV and TSS
Detection Monitoring	Semi-annual detection monitoring for Appendix III COIs	257.94(c)	Appendix III
Assessment Monitoring	Detailed types below.	257.95	Detailed types below.
➢ Initial Assessment	Determining detected Appendix IV COIs	257.95(b)	Appendix IV
➢ Semi-Annual Assessment	Semi-annual assessment monitoring for Appendix III and detected Appendix IV COIs	257.95(d)	Appendix III and detected Appendix IV plus TSS
➢ Annual Assessment	Determining detected Appendix IV COIs on an annual basis. Starting in 2019 this will also count as the semi-annual sample event.	257.95(b)	Appendix III and all Appendix IV plus TSS
➢ Release Characterization Assessment	Occurs after detection of SSL above the GPS for the purpose of characterizing the nature and extent of the release.	257.95(g)(1)(iv)	Appendix III and detected Appendix IV plus TSS
➢ Corrective Action Assessment	Occurs after a facility has initiated corrective action. This is an PSCo designation (not in the Rule) added to Assessment Monitoring to differentiate that the samples were collected after the corrective action has been implemented.	N/A	Appendix III and detected Appendix IV plus TSS
Post-CCR Removal Monitoring	Occurs after the facility has been physically closed (e.g. all CCR waste removed from the impoundment). This is an PSCo designation added to other types of monitoring (e.g. Background Monitoring or Detection Monitoring.	N/A	Appendix III and/or Appendix IV as applicable plus TSS
Closure Confirmation Monitoring	Occurs after the facility has been closed (e.g. all CCR waste removed from the impoundment) in compliance with CCR Rule for certification of Clean Closure.	257.102	Appendix IV

Appendix C

Laboratory Reports

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
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Laboratory Job ID: 280-144589-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
2/16/2021 10:47:14 AM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-144589-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-144589-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 01/14/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.4º C, 1.5º C, 2.3º C, 2.7º C, 3.4º C and 4.8º C.

Please note, the Radioactive analyses are reported under job 280-144589-2.

TOTAL RECOVERABLE METALS- Method 6010B/6020A
Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

The accuracy and precision of the Calcium MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The continuing calibration verification (CCV) associated with batch 240-470022 recovered above the upper control limit for Beryllium. The samples associated with this CCV were below the requested reporting limit for the affected analyte; therefore, corrective action is deemed unnecessary.

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

TOTAL MERCURY- Method 7470A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY
Several samples required dilution prior to analysis for Method 9056A. The reporting limits have been adjusted accordingly.

The analyst notated that the Fluoride results for samples W-2A, MW-2B, MW-3, MW-5, and W-10B are reported as ND at a 10x dilution due to matrix interferences, as the results appear to be false positives at 1x. It appears to be a result of the combination of an interfering peak as well as the extremely high Chloride in these samples raising the baseline in the 1X analysis.

Due to a laboratory error, the holding time for Total Dissolved Solids Method 2540C for sample W-6 expired prior to analysis. Analyses were originally performed within holding time, however, the results were non-detect and did not coincide with historical and other results requested. Only the re-analysis is being reported. Please note that the sample results should be considered estimated.

Job ID: 280-144589-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Due to sample results not matching historical, the holding time for Total Suspended Solids Method 2540D for sample W-6 expired prior to analysis. Analyses were originally performed within holding time, however, the results did not coincide with historical. Both results are being reported.

The accuracy and precision of the Sulfate MS/MSD performed on sample W-3 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptible LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The Total Dissolved Solids sample duplicate analysis performed on sample W-2A exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

Detection Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2A — Lab Sample ID: 280-144589-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.5		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.022		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.018		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	160		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0051		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0087		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0021		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0030	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00069	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	3.2		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0053		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	4.4		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	870		30	10	mg/L	10		9056A	Total/NA
Sulfate	99000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	55000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	160		6.3	1.7	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3 — Lab Sample ID: 280-144589-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.57		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.00096	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.032		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	300		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00034	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.017		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.012		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.061		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	23		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.68		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1300		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Client Sample ID: W-3 (Continued) — Lab Sample ID: 280-144589-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	4.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3D — Lab Sample ID: 280-144589-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.54		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.00079	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.027		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	290		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00033	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.017		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.011		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.058		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	23		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.67		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1300		50	10	mg/L	10		9056A	Total/NA
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5 — Lab Sample ID: 280-144589-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.8		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0012	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0027	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	200		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0052		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.037		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0093		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.66		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	560		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	13000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	16000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	10		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-6
Lab Sample ID: 280-144589-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	7.5		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0012	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0019	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.025		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	210		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00098	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0022		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.40		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00069	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	0.0079		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.18		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	180		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.7		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	4800		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6200	H	100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Suspended Solids - RA	11	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-1B
Lab Sample ID: 280-144589-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00081	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0057		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.012		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	120		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0028		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.033		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0045	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.67		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0030		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1B (Continued) — Lab Sample ID: 280-144589-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	410		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	1.8		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	19000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	25000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-2B — Lab Sample ID: 280-144589-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.018		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.014		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	150		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0013		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.029		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0069	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.2		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0099		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	5.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	580		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	1.3	J	2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	37000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	44000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 280-144589-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0052		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.010		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	160		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.014		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.051		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0036	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-3 (Continued) — Lab Sample ID: 280-144589-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.61		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0037		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	360		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	36000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	51000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	12		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-4B — Lab Sample ID: 280-144589-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.49		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.024		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	510		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00027	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0036		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.017		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.3		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.54		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	200		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.17	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3000		100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	5900		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 280-144589-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00084	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0033	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.024		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	210		1.0	0.58	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-5 (Continued) — Lab Sample ID: 280-144589-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00063	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0039		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0025		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0081	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.16		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0018		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.5		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1600		60	20	mg/L	20		9056A	Total/NA
Sulfate	18000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	24000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	18		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 280-144589-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0088		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.0067		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	430		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00064	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0099	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.1		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.22		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	260		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.25	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	4200		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6100		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.8		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-6D — Lab Sample ID: 280-144589-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0056		0.0050	0.00075	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-6D (Continued) — Lab Sample ID: 280-144589-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0069		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	430		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00063	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0099	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.1		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.21		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	260		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.26	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	4100		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-6FB — Lab Sample ID: 280-144589-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	5.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA

Client Sample ID: W-11 — Lab Sample ID: 280-144589-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.019		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.014		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	370		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0011		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0073		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0037	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.5		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0036		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.9		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	350		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	2.7		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	14000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	20000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-12
Lab Sample ID: 280-144589-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00072	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Barium	0.017		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	160		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0012		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.022		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0046	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.029		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0037		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	870		30	10	mg/L	10		9056A	Total/NA
Sulfate	16000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	23000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-9
Lab Sample ID: 280-144589-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0017	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0010	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.021		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	380		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00077	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.016		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0013	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0075	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0046	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00033	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	1.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	360		15	5.1	mg/L	5		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-9 (Continued) — Lab Sample ID: 280-144589-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	11000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	16000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-10B — Lab Sample ID: 280-144589-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0011	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.045		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.060		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Beryllium	0.00063	J ^+	0.0010	0.00031	mg/L	1		6020A	Total Recoverable
Calcium	250		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00082	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.014		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.010		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.012		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.0047		0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	7.1		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0065		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	5.5		0.16	0.033	mg/L	20		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1200		60	20	mg/L	20		9056A	Total/NA
Sulfate	84000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	79000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	50		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-144589-1	W-2A	Ground Water	01/13/21 10:20	01/14/21 08:30	
280-144589-2	W-3	Ground Water	01/13/21 16:00	01/14/21 08:30	
280-144589-3	W-3D	Ground Water	01/13/21 16:10	01/14/21 08:30	
280-144589-4	W-5	Ground Water	01/12/21 14:28	01/14/21 08:30	
280-144589-5	W-6	Ground Water	01/12/21 12:15	01/14/21 08:30	
280-144589-6	MW-1B	Ground Water	01/12/21 16:25	01/14/21 08:30	
280-144589-7	MW-2B	Ground Water	01/13/21 11:30	01/14/21 08:30	
280-144589-8	MW-3	Ground Water	01/12/21 09:20	01/14/21 08:30	
280-144589-9	MW-4B	Ground Water	01/13/21 09:40	01/14/21 08:30	
280-144589-10	MW-5	Water	01/12/21 11:15	01/14/21 08:30	
280-144589-11	MW-6	Water	01/12/21 14:20	01/14/21 08:30	
280-144589-12	MW-6D	Water	01/12/21 14:25	01/14/21 08:30	
280-144589-13	MW-6FB	Water	01/12/21 15:15	01/14/21 08:30	
280-144589-14	W-11	Ground Water	01/13/21 13:55	01/14/21 08:30	
280-144589-15	W-12	Water	01/13/21 15:30	01/14/21 08:30	
280-144589-16	W-9	Water	01/13/21 14:00	01/14/21 08:30	
280-144589-17	W-10B	Water	01/13/21 13:10	01/14/21 08:30	

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.5		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:09	1

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.57		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:14	1

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.54		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:18	1

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.8		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:22	1

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.5		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:27	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 11:46	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 11:50	1

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 11:55	1

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:31	1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.3**		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:36	1

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.1**		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:40	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.2**		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:45	1

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 19:58	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.1**		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 12:00	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.3**		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 12:04	1

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.9**		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 20:02	1

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.9**		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 20:07	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:35	1
Arsenic	**0.022**		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:35	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.018**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:35	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:35	1
Calcium	**160**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:35	1
Cadmium	**0.0051**		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:35	1
Cobalt	**0.0087**		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:35	1
Chromium	**0.0021**		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:35	1
Molybdenum	**0.0030**	**J**	0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:35	1
Lead	**0.00069**	**J**	0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:35	1
Selenium	**3.2**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:35	1
Thallium	**0.0053**		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:35	1
Lithium	**4.4**		0.080	0.017	mg/L		01/19/21 14:00	01/21/21 17:17	10

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:42	1
Arsenic	**0.00096**	**J**	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:42	1
Barium	**0.032**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:42	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:42	1
Calcium	**300**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:42	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:42	1
Cobalt	**0.00034**	**J**	0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:42	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:42	1
Molybdenum	**0.017**		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:42	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:42	1
Selenium	**0.012**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:42	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:42	1
Lithium	**0.061**		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:19	1

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:45	1
Arsenic	**0.00079**	**J**	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:45	1
Barium	**0.027**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:45	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:45	1
Calcium	**290**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:45	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:45	1
Cobalt	**0.00033**	**J**	0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:45	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:45	1
Molybdenum	**0.017**		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:45	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:45	1
Selenium	**0.011**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:45	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:45	1
Lithium	**0.058**		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:22	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0012	J	0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:47	1
Arsenic	0.0027	J	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:47	1
Barium	0.022		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:47	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:47	1
Calcium	200		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:47	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:47	1
Cobalt	0.0052		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:47	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:47	1
Molybdenum	0.037		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:47	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:47	1
Selenium	0.0093		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:47	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:47	1
Lithium	0.66		0.040	0.0083	mg/L		01/19/21 14:00	01/21/21 17:24	5

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0012	J	0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:50	1
Arsenic	0.0019	J	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:50	1
Barium	0.025		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:50	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:50	1
Calcium	210		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:50	1
Cadmium	0.00098	J	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:50	1
Cobalt	0.0022		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:50	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:50	1
Molybdenum	0.40		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:50	1
Lead	0.00069	J	0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:50	1
Selenium	0.0079		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:50	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:50	1
Lithium	0.18		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:27	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00081	J	0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 19:01	1
Arsenic	0.0057		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 19:01	1
Barium	0.012		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 19:01	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 19:01	1
Calcium	120		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 19:01	1
Cadmium	0.0028		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:01	1
Cobalt	0.033		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 19:01	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 19:01	1
Molybdenum	0.0045	J	0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 19:01	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 19:01	1
Selenium	0.67		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 19:01	1
Thallium	0.0030		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:01	1
Lithium	3.1		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:20	10

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 19:04	1
Arsenic	**0.018**		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 19:04	1
Barium	**0.014**		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 19:04	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 19:04	1
Calcium	**150**		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 19:04	1
Cadmium	**0.0013**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:04	1
Cobalt	**0.029**		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 19:04	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 19:04	1
Molybdenum	**0.0069**	**J**	0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 19:04	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 19:04	1
Selenium	**2.2**		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 19:04	1
Thallium	**0.0099**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:04	1
Lithium	**5.1**		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:23	10

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 19:06	1
Arsenic	**0.0052**		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 19:06	1
Barium	**0.010**		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 19:06	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 19:06	1
Calcium	**160**		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 19:06	1
Cadmium	**0.014**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:06	1
Cobalt	**0.051**		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 19:06	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 19:06	1
Molybdenum	**0.0036**	**J**	0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 19:06	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 19:06	1
Selenium	**0.61**		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 19:06	1
Thallium	**0.0037**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:06	1
Lithium	**2.1**		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:25	10

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:52	1
Arsenic	**0.014**		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:52	1
Barium	**0.024**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:52	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:52	1
Calcium	**510**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:52	1
Cadmium	**0.00027**	**J**	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:52	1
Cobalt	**0.0036**		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:52	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:52	1
Molybdenum	**0.017**		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:52	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:52	1
Selenium	**2.3**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:52	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:52	1
Lithium	**0.54**		0.040	0.0083	mg/L		01/19/21 14:00	01/21/21 17:30	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00084**	**J**	0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:55	1
Arsenic	**0.0033**	**J**	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:55	1
Barium	**0.024**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:55	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:55	1
Calcium	**210**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:55	1
Cadmium	**0.00063**	**J**	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:55	1
Cobalt	**0.0039**		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:55	1
Chromium	**0.0025**		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:55	1
Molybdenum	**0.0081**	**J**	0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:55	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:55	1
Selenium	**0.16**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:55	1
Thallium	**0.0018**		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:55	1
Lithium	**3.5**		0.080	0.017	mg/L		01/19/21 14:00	01/21/21 17:32	10

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:58	1
Arsenic	**0.0088**		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:58	1
Barium	**0.0067**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:58	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:58	1
Calcium	**430**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:58	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:58	1
Cobalt	**0.00064**	**J**	0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:58	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:58	1
Molybdenum	**0.0099**	**J**	0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:58	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:58	1
Selenium	**1.1**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:58	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:58	1
Lithium	**0.22**		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:39	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 16:00	1
Arsenic	**0.0056**		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 16:00	1
Barium	**0.0069**		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 16:00	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 16:00	1
Calcium	**430**		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 16:00	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:00	1
Cobalt	**0.00063**	**J**	0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 16:00	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 16:00	1
Molybdenum	**0.0099**	**J**	0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 16:00	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 16:00	1
Selenium	**1.1**		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 16:00	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:00	1
Lithium	**0.21**		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:42	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 16:03	1
Arsenic	ND		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 16:03	1
Barium	ND		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 16:03	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 16:03	1
Calcium	ND		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 16:03	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:03	1
Cobalt	ND		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 16:03	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 16:03	1
Molybdenum	ND		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 16:03	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 16:03	1
Selenium	ND		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 16:03	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:03	1
Lithium	ND		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:45	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 19:09	1
Arsenic	**0.019**		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 19:09	1
Barium	**0.014**		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 19:09	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 19:09	1
Calcium	**370**		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 19:09	1
Cadmium	**0.0011**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:09	1
Cobalt	**0.0073**		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 19:09	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 19:09	1
Molybdenum	**0.0037**	**J**	0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 19:09	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 19:09	1
Selenium	**2.5**		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 19:09	1
Thallium	**0.0036**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:09	1
Lithium	**3.9**		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:28	10

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00072**	**J**	0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 19:11	1
Arsenic	ND		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 19:11	1
Barium	**0.017**		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 19:11	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 19:11	1
Calcium	**160**		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 19:11	1
Cadmium	**0.0012**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:11	1
Cobalt	**0.022**		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 19:11	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 19:11	1
Molybdenum	**0.0046**	**J**	0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 19:11	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 19:11	1
Selenium	**0.029**		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 19:11	1
Thallium	**0.0037**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 19:11	1
Lithium	**2.1**		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:30	10

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0017	J	0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 16:05	1
Arsenic	0.0010	J	0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 16:05	1
Barium	0.021		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 16:05	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 16:05	1
Calcium	380		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 16:05	1
Cadmium	0.00077	J	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:05	1
Cobalt	0.016		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 16:05	1
Chromium	0.0013	J	0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 16:05	1
Molybdenum	0.0075	J	0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 16:05	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 16:05	1
Selenium	0.0046	J	0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 16:05	1
Thallium	0.00033	J	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:05	1
Lithium	1.1		0.080	0.017	mg/L		01/19/21 14:00	01/21/21 17:47	10

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0011	J	0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 16:13	1
Arsenic	0.045		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 16:13	1
Barium	0.060		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 16:13	1
Beryllium	0.00063	J ^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 16:13	1
Calcium	250		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 16:13	1
Cadmium	0.00082	J	0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:13	1
Cobalt	0.014		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 16:13	1
Chromium	0.010		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 16:13	1
Molybdenum	0.012		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 16:13	1
Lead	0.0047		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 16:13	1
Selenium	7.1		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 16:13	1
Thallium	0.0065		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 16:13	1
Lithium	5.5		0.16	0.033	mg/L		01/19/21 14:00	01/21/21 17:50	20

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:32	1

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:34	1

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:36	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:38	1

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:40	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:42	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:44	1

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:46	1

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:42	1

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:44	1

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:51	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:53	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:55	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:48	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:50	1

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:57	1

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:59	1

General Chemistry

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU			01/19/21 22:01	1
Temperature	22.0	HF	1.0	1.0	Degrees C			01/19/21 22:01	1
Chloride	870		30	10	mg/L			01/28/21 18:38	10
Fluoride	ND		5.0	1.7	mg/L			01/28/21 18:38	10
Sulfate	99000		2500	520	mg/L			02/08/21 18:10	500
Total Dissolved Solids (TDS)	55000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	160		6.3	1.7	mg/L			01/14/21 16:09	1

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			01/19/21 20:44	1
Temperature	19.8	HF	1.0	1.0	Degrees C			01/19/21 20:44	1
Chloride	23		3.0	1.0	mg/L			01/28/21 18:55	1
Fluoride	0.68		0.50	0.17	mg/L			01/28/21 18:55	1
Sulfate	1300		50	10	mg/L			02/05/21 17:07	10
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L			01/14/21 17:31	1
Total Suspended Solids	4.0		4.0	1.1	mg/L			01/20/21 10:59	1

General Chemistry

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			01/19/21 20:33	1
Temperature	21.1	HF	1.0	1.0	Degrees C			01/19/21 20:33	1
Chloride	23		3.0	1.0	mg/L			01/28/21 20:00	1
Fluoride	0.67		0.50	0.17	mg/L			01/28/21 20:00	1
Sulfate	1300		50	10	mg/L			02/05/21 18:13	10
Total Dissolved Solids (TDS)	2000		20	9.4	mg/L			01/14/21 17:31	1
Total Suspended Solids	4.0		4.0	1.1	mg/L			01/20/21 10:59	1

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			01/19/21 20:26	1
Temperature	19.9	HF	1.0	1.0	Degrees C			01/19/21 20:26	1
Chloride	560		15	5.1	mg/L			01/28/21 20:33	5
Fluoride	ND		0.50	0.17	mg/L			01/28/21 20:17	1
Sulfate	13000		500	100	mg/L			02/05/21 18:29	100
Total Dissolved Solids (TDS)	16000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	10		4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			01/19/21 21:33	1
Temperature	21.8	HF	1.0	1.0	Degrees C			01/19/21 21:33	1
Chloride	180		3.0	1.0	mg/L			01/28/21 20:49	1
Fluoride	1.7		0.50	0.17	mg/L			01/28/21 20:49	1
Sulfate	4800		250	52	mg/L			02/09/21 18:57	50
Total Dissolved Solids (TDS)	6200	H	100	47	mg/L			01/26/21 13:59	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			01/19/21 20:41	1
Temperature	19.9	HF	1.0	1.0	Degrees C			01/19/21 20:41	1
Chloride	410		15	5.1	mg/L			01/28/21 22:12	5
Fluoride	1.8		0.50	0.17	mg/L			01/28/21 21:55	1
Sulfate	19000		500	100	mg/L			01/30/21 15:09	100
Total Dissolved Solids (TDS)	25000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	2.8	J	4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			01/19/21 21:44	1
Temperature	21.3	HF	1.0	1.0	Degrees C			01/19/21 21:44	1

General Chemistry (Continued)

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	580		15	5.1	mg/L			01/28/21 22:44	5
Fluoride	1.3	J	2.5	0.83	mg/L			01/28/21 22:44	5
Sulfate	37000		1000	210	mg/L			02/05/21 19:02	200
Total Dissolved Solids (TDS)	44000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	4.4		4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			01/19/21 22:04	1
Temperature	22.7	HF	1.0	1.0	Degrees C			01/19/21 22:04	1
Chloride	360		15	5.1	mg/L			01/28/21 23:17	5
Fluoride	ND		2.5	0.83	mg/L			01/28/21 23:17	5
Sulfate	36000		2500	520	mg/L			02/09/21 19:47	500
Total Dissolved Solids (TDS)	51000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	12		4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			01/19/21 20:37	1
Temperature	20.6	HF	1.0	1.0	Degrees C			01/19/21 20:37	1
Chloride	200		3.0	1.0	mg/L			01/28/21 23:34	1
Fluoride	0.17	J	0.50	0.17	mg/L			01/28/21 23:34	1
Sulfate	3000		100	21	mg/L			01/30/21 14:36	20
Total Dissolved Solids (TDS)	5900		40	19	mg/L			01/14/21 17:31	1
Total Suspended Solids	4.0		4.0	1.1	mg/L			01/20/21 10:59	1

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			01/19/21 20:30	1
Temperature	20.4	HF	1.0	1.0	Degrees C			01/19/21 20:30	1
Chloride	1600		60	20	mg/L			01/29/21 00:56	20
Fluoride	ND		10	3.3	mg/L			01/29/21 00:56	20
Sulfate	18000		500	100	mg/L			02/05/21 20:08	100
Total Dissolved Solids (TDS)	24000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	18		4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			01/19/21 22:08	1
Temperature	22.2	HF	1.0	1.0	Degrees C			01/19/21 22:08	1
Chloride	260		15	5.1	mg/L			01/29/21 01:29	5
Fluoride	0.25	J	0.50	0.17	mg/L			01/29/21 01:12	1

General Chemistry (Continued)

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	4200		250	52	mg/L			02/05/21 20:24	50
Total Dissolved Solids (TDS)	6100		40	19	mg/L			01/14/21 17:31	1
Total Suspended Solids	8.8		4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			01/19/21 22:12	1
Temperature	22.1	HF	1.0	1.0	Degrees C			01/19/21 22:12	1
Chloride	260		15	5.1	mg/L			01/29/21 02:02	5
Fluoride	0.26	J	0.50	0.17	mg/L			01/29/21 01:45	1
Sulfate	4100		250	52	mg/L			02/05/21 20:41	50
Total Dissolved Solids (TDS)	6300		40	19	mg/L			01/14/21 17:31	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			01/14/21 16:09	1

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	5.6	HF	0.1	0.1	SU			01/21/21 19:13	1
Temperature	19.6	HF	1.0	1.0	Degrees C			01/21/21 19:13	1
Chloride	ND		3.0	1.0	mg/L			01/29/21 02:18	1
Fluoride	ND		0.50	0.17	mg/L			01/29/21 02:18	1
Sulfate	ND		5.0	1.0	mg/L			01/29/21 02:18	1
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			01/14/21 17:31	1
Total Suspended Solids	ND		4.0	1.1	mg/L			01/14/21 16:13	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			01/19/21 20:22	1
Temperature	19.6	HF	1.0	1.0	Degrees C			01/19/21 20:22	1
Chloride	350		15	5.1	mg/L			01/29/21 02:51	5
Fluoride	2.7		0.50	0.17	mg/L			01/29/21 02:34	1
Sulfate	14000		500	100	mg/L			02/05/21 20:57	100
Total Dissolved Solids (TDS)	20000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	5.2		4.0	1.1	mg/L			01/20/21 10:59	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			01/19/21 21:58	1
Temperature	21.9	HF	1.0	1.0	Degrees C			01/19/21 21:58	1
Chloride	870		30	10	mg/L			01/29/21 03:24	10
Fluoride	ND		0.50	0.17	mg/L			01/29/21 03:07	1
Sulfate	16000		500	100	mg/L			02/05/21 21:13	100
Total Dissolved Solids (TDS)	23000		1000	470	mg/L			01/14/21 17:31	1

General Chemistry (Continued)

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.2		4.0	1.1	mg/L			01/14/21 16:13	1

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			01/19/21 21:36	1
Temperature	21.8	HF	1.0	1.0	Degrees C			01/19/21 21:36	1
Chloride	360		15	5.1	mg/L			01/29/21 04:30	5
Fluoride	ND		0.50	0.17	mg/L			01/29/21 04:14	1
Sulfate	11000		500	100	mg/L			02/05/21 21:30	100
Total Dissolved Solids (TDS)	16000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	9.6		4.0	1.1	mg/L			01/14/21 16:13	1

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			01/19/21 21:40	1
Temperature	21.4	HF	1.0	1.0	Degrees C			01/19/21 21:40	1
Chloride	1200		60	20	mg/L			01/29/21 05:03	20
Fluoride	ND		10	3.3	mg/L			01/29/21 05:03	20
Sulfate	84000		2500	520	mg/L			02/08/21 18:59	500
Total Dissolved Solids (TDS)	79000		1000	470	mg/L			01/14/21 17:31	1
Total Suspended Solids	50		4.0	1.1	mg/L			01/14/21 16:13	1

General Chemistry - RA

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	11	H	4.0	1.1	mg/L			01/20/21 10:59	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-469656/1-A
Matrix: Water
Analysis Batch: 469971

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		01/19/21 14:00	01/20/21 18:18	1

Lab Sample ID: LCS 240-469656/2-A
Matrix: Water
Analysis Batch: 469971

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.998		mg/L		100	80 - 120

Lab Sample ID: MB 240-469834/1-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 09:42	1

Lab Sample ID: LCS 240-469834/2-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-469656/1-A
Matrix: Water
Analysis Batch: 470022

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/19/21 14:00	01/20/21 15:13	1
Arsenic	ND		0.0050	0.00075	mg/L		01/19/21 14:00	01/20/21 15:13	1
Barium	ND		0.0050	0.0022	mg/L		01/19/21 14:00	01/20/21 15:13	1
Beryllium	ND	^+	0.0010	0.00031	mg/L		01/19/21 14:00	01/20/21 15:13	1
Calcium	ND		1.0	0.58	mg/L		01/19/21 14:00	01/20/21 15:13	1
Cadmium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:13	1
Cobalt	ND		0.0010	0.00019	mg/L		01/19/21 14:00	01/20/21 15:13	1
Chromium	ND		0.0020	0.00098	mg/L		01/19/21 14:00	01/20/21 15:13	1
Molybdenum	ND		0.010	0.0011	mg/L		01/19/21 14:00	01/20/21 15:13	1
Lead	ND		0.0010	0.00045	mg/L		01/19/21 14:00	01/20/21 15:13	1
Selenium	ND		0.0050	0.00089	mg/L		01/19/21 14:00	01/20/21 15:13	1
Thallium	ND		0.0010	0.00020	mg/L		01/19/21 14:00	01/20/21 15:13	1

Lab Sample ID: MB 240-469656/1-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0080	0.0017	mg/L		01/19/21 14:00	01/21/21 17:12	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-469656/3-A
Matrix: Water
Analysis Batch: 470022

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0985		mg/L		98	80 - 120
Arsenic	1.00	1.02		mg/L		102	80 - 120
Barium	1.00	1.01		mg/L		101	80 - 120
Beryllium	0.500	0.515	^+	mg/L		103	80 - 120
Calcium	25.0	25.4		mg/L		102	80 - 120
Cadmium	0.500	0.509		mg/L		102	80 - 120
Cobalt	0.500	0.510		mg/L		102	80 - 120
Chromium	0.500	0.525		mg/L		105	80 - 120
Molybdenum	0.500	0.500		mg/L		100	80 - 120
Lead	0.500	0.516		mg/L		103	80 - 120
Selenium	1.00	1.01		mg/L		101	80 - 120
Thallium	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: LCS 240-469656/3-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.546		mg/L		109	80 - 120

Lab Sample ID: MB 240-469834/1-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 18:00	1
Arsenic	ND		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 18:00	1
Barium	ND		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 18:00	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 18:00	1
Calcium	ND		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 18:00	1
Cadmium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:00	1
Cobalt	ND		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 18:00	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 18:00	1
Molybdenum	ND		0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 18:00	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 18:00	1
Selenium	ND		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 18:00	1
Thallium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:00	1
Lithium	ND		0.0080	0.0017	mg/L		01/20/21 14:00	01/21/21 18:00	1

Lab Sample ID: LCS 240-469834/3-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0962		mg/L		96	80 - 120
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	0.953		mg/L		95	80 - 120
Beryllium	0.500	0.502		mg/L		100	80 - 120
Calcium	25.0	24.3		mg/L		97	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-469834/3-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.500	0.478		mg/L		96	80 - 120
Cobalt	0.500	0.504		mg/L		101	80 - 120
Chromium	0.500	0.485		mg/L		97	80 - 120
Molybdenum	0.500	0.489		mg/L		98	80 - 120
Lead	0.500	0.496		mg/L		99	80 - 120
Selenium	1.00	0.956		mg/L		96	80 - 120
Thallium	1.00	0.944		mg/L		94	80 - 120
Lithium	0.500	0.516		mg/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-469659/1-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 469659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/19/21 12:00	01/21/21 14:13	1

Lab Sample ID: LCS 240-469659/2-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 469659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00462		mg/L		92	80 - 120

Lab Sample ID: MB 240-469837/1-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 469837

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:01	1

Lab Sample ID: LCS 240-469837/2-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 469837

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00451		mg/L		90	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-524135/30
Matrix: Water
Analysis Batch: 524135

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 280-524135/4
Matrix: Water
Analysis Batch: 524135

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		101	99 - 101

Lab Sample ID: LCS 280-524351/4
Matrix: Water
Analysis Batch: 524351

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-524806/6
Matrix: Water
Analysis Batch: 524806

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			01/28/21 13:48	1
Fluoride	ND		0.50	0.17	mg/L			01/28/21 13:48	1
Sulfate	ND		5.0	1.0	mg/L			01/28/21 13:48	1

Lab Sample ID: LCS 280-524806/4
Matrix: Water
Analysis Batch: 524806

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	102		mg/L		102	90 - 110
Fluoride	5.00	5.13		mg/L		103	90 - 110
Sulfate	100	105		mg/L		105	90 - 110

Lab Sample ID: LCSD 280-524806/5
Matrix: Water
Analysis Batch: 524806

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	100	101		mg/L		101	90 - 110	1	10
Fluoride	5.00	5.07		mg/L		101	90 - 110	1	10
Sulfate	100	105		mg/L		105	90 - 110	1	10

Lab Sample ID: MRL 280-524806/3
Matrix: Water
Analysis Batch: 524806

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.38		mg/L		108	50 - 150
Fluoride	0.500	0.510		mg/L		102	50 - 150
Sulfate	5.00	5.34		mg/L		107	50 - 150

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-144589-2 MS
Matrix: Ground Water
Analysis Batch: 524806

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	23		50.0	79.1		mg/L		111	80 - 120		
Fluoride	0.68		5.00	4.99		mg/L		86	80 - 120		

Lab Sample ID: 280-144589-2 MSD
Matrix: Ground Water
Analysis Batch: 524806

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	23		50.0	78.3		mg/L		110	80 - 120	1	20
Fluoride	0.68		5.00	5.10		mg/L		88	80 - 120	2	20

Lab Sample ID: 280-144589-2 DU
Matrix: Ground Water
Analysis Batch: 524806

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	23		23.8		mg/L		2	15
Fluoride	0.68		0.691		mg/L		2	15

Lab Sample ID: MB 280-524918/6
Matrix: Water
Analysis Batch: 524918

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			01/29/21 11:01	1

Lab Sample ID: LCS 280-524918/4
Matrix: Water
Analysis Batch: 524918

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			100	103		mg/L		103	90 - 110		

Lab Sample ID: LCSD 280-524918/5
Matrix: Water
Analysis Batch: 524918

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
Sulfate			100	101		mg/L		101	90 - 110	2	10

Lab Sample ID: MRL 280-524918/3
Matrix: Water
Analysis Batch: 524918

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	5.36		mg/L		107	50 - 150		

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-525571/6
Matrix: Water
Analysis Batch: 525571

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			02/05/21 16:01	1

Lab Sample ID: LCS 280-525571/4
Matrix: Water
Analysis Batch: 525571

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	101		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-525571/5
Matrix: Water
Analysis Batch: 525571

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
Sulfate	100	101		mg/L		101	90 - 110	0	10

Lab Sample ID: MRL 280-525571/3
Matrix: Water
Analysis Batch: 525571

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	5.40		mg/L		108	50 - 150

Lab Sample ID: 280-144589-2 MS
Matrix: Ground Water
Analysis Batch: 525571

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	1300		500	1830		mg/L		114	80 - 120

Lab Sample ID: 280-144589-2 MSD
Matrix: Ground Water
Analysis Batch: 525571

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1300		500	1790		mg/L		106	80 - 120	2	20

Lab Sample ID: 280-144589-2 DU
Matrix: Ground Water
Analysis Batch: 525571

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	1300		1240		mg/L		2	15

Lab Sample ID: MB 280-525738/6
Matrix: Water
Analysis Batch: 525738

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			02/08/21 13:51	1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 280-525738/4
Matrix: Water
Analysis Batch: 525738

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	95.4		mg/L		95	90 - 110

Lab Sample ID: LCSD 280-525738/5
Matrix: Water
Analysis Batch: 525738

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
Sulfate	100	95.5		mg/L		95	90 - 110	0	10

Lab Sample ID: MRL 280-525738/3
Matrix: Water
Analysis Batch: 525738

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.80	J	mg/L		96	50 - 150

Lab Sample ID: MB 280-525844/6
Matrix: Water
Analysis Batch: 525844

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			02/09/21 16:00	1

Lab Sample ID: LCS 280-525844/4
Matrix: Water
Analysis Batch: 525844

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-525844/5
Matrix: Water
Analysis Batch: 525844

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
Sulfate	100	100		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-525844/3
Matrix: Water
Analysis Batch: 525844

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.91	J	mg/L		98	50 - 150

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

Lab Sample ID: MB 280-523603/1
Matrix: Water
Analysis Batch: 523603

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			01/14/21 17:31	1

Lab Sample ID: LCS 280-523603/2
Matrix: Water
Analysis Batch: 523603

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 (TDS)	501	473		mg/L		95	88 - 114

Lab Sample ID: 280-144589-1 DU
Matrix: Ground Water
Analysis Batch: 523603

Client Sample ID: W-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	55000		67000	F3	mg/L		19	10

Lab Sample ID: MB 280-524633/1
Matrix: Water
Analysis Batch: 524633

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			01/26/21 13:59	1

Lab Sample ID: LCS 280-524633/2
Matrix: Water
Analysis Batch: 524633

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 (TDS)	501	483		mg/L		97	88 - 114

Lab Sample ID: LCSD 280-524633/3
Matrix: Water
Analysis Batch: 524633

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 (TDS)	501	485		mg/L		97	88 - 114	0	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-523577/1
Matrix: Water
Analysis Batch: 523577

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			01/14/21 16:09	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-523577/2
Matrix: Water
Analysis Batch: 523577

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	86.4		mg/L		86	79 - 114

Lab Sample ID: 280-144589-12 DU
Matrix: Water
Analysis Batch: 523577

Client Sample ID: MW-6D
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	1.6	J	ND		mg/L		NC	10

Lab Sample ID: MB 280-523578/1
Matrix: Water
Analysis Batch: 523578

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			01/14/21 16:13	1

Lab Sample ID: LCS 280-523578/2
Matrix: Water
Analysis Batch: 523578

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	108		mg/L		108	79 - 114

Lab Sample ID: 280-144589-13 DU
Matrix: Water
Analysis Batch: 523578

Client Sample ID: MW-6FB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		ND		mg/L		NC	10

Lab Sample ID: MB 280-524116/1
Matrix: Water
Analysis Batch: 524116

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			01/20/21 10:59	1

Lab Sample ID: LCS 280-524116/2
Matrix: Water
Analysis Batch: 524116

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	102		mg/L		102	79 - 114

Lab Sample ID: 280-144589-9 DU
Matrix: Ground Water
Analysis Batch: 524116

Client Sample ID: MW-4B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	4.0		4.00		mg/L		0	10

Metals

Prep Batch: 469656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total Recoverable	Ground Water	3005A	
280-144589-2	W-3	Total Recoverable	Ground Water	3005A	
280-144589-3	W-3D	Total Recoverable	Ground Water	3005A	
280-144589-4	W-5	Total Recoverable	Ground Water	3005A	
280-144589-5	W-6	Total Recoverable	Ground Water	3005A	
280-144589-9	MW-4B	Total Recoverable	Ground Water	3005A	
280-144589-10	MW-5	Total Recoverable	Water	3005A	
280-144589-11	MW-6	Total Recoverable	Water	3005A	
280-144589-12	MW-6D	Total Recoverable	Water	3005A	
280-144589-13	MW-6FB	Total Recoverable	Water	3005A	
280-144589-16	W-9	Total Recoverable	Water	3005A	
280-144589-17	W-10B	Total Recoverable	Water	3005A	
MB 240-469656/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-469656/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-469656/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 469659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	7470A	
280-144589-2	W-3	Total/NA	Ground Water	7470A	
280-144589-3	W-3D	Total/NA	Ground Water	7470A	
280-144589-4	W-5	Total/NA	Ground Water	7470A	
280-144589-5	W-6	Total/NA	Ground Water	7470A	
280-144589-9	MW-4B	Total/NA	Ground Water	7470A	
280-144589-10	MW-5	Total/NA	Water	7470A	
280-144589-11	MW-6	Total/NA	Water	7470A	
280-144589-12	MW-6D	Total/NA	Water	7470A	
280-144589-13	MW-6FB	Total/NA	Water	7470A	
280-144589-16	W-9	Total/NA	Water	7470A	
280-144589-17	W-10B	Total/NA	Water	7470A	
MB 240-469659/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-469659/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 469834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-6	MW-1B	Total Recoverable	Ground Water	3005A	
280-144589-7	MW-2B	Total Recoverable	Ground Water	3005A	
280-144589-8	MW-3	Total Recoverable	Ground Water	3005A	
280-144589-14	W-11	Total Recoverable	Ground Water	3005A	
280-144589-15	W-12	Total Recoverable	Water	3005A	
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-469834/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-469834/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 469837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-6	MW-1B	Total/NA	Ground Water	7470A	
280-144589-7	MW-2B	Total/NA	Ground Water	7470A	
280-144589-8	MW-3	Total/NA	Ground Water	7470A	
280-144589-14	W-11	Total/NA	Ground Water	7470A	
280-144589-15	W-12	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 469837 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-469837/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-469837/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 469971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total Recoverable	Ground Water	6010C	469656
280-144589-2	W-3	Total Recoverable	Ground Water	6010C	469656
280-144589-3	W-3D	Total Recoverable	Ground Water	6010C	469656
280-144589-4	W-5	Total Recoverable	Ground Water	6010C	469656
280-144589-5	W-6	Total Recoverable	Ground Water	6010C	469656
280-144589-9	MW-4B	Total Recoverable	Ground Water	6010C	469656
280-144589-10	MW-5	Total Recoverable	Water	6010C	469656
280-144589-11	MW-6	Total Recoverable	Water	6010C	469656
280-144589-12	MW-6D	Total Recoverable	Water	6010C	469656
280-144589-13	MW-6FB	Total Recoverable	Water	6010C	469656
280-144589-16	W-9	Total Recoverable	Water	6010C	469656
280-144589-17	W-10B	Total Recoverable	Water	6010C	469656
MB 240-469656/1-A	Method Blank	Total Recoverable	Water	6010C	469656
LCS 240-469656/2-A	Lab Control Sample	Total Recoverable	Water	6010C	469656

Analysis Batch: 470021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-6	MW-1B	Total Recoverable	Ground Water	6010C	469834
280-144589-7	MW-2B	Total Recoverable	Ground Water	6010C	469834
280-144589-8	MW-3	Total Recoverable	Ground Water	6010C	469834
280-144589-14	W-11	Total Recoverable	Ground Water	6010C	469834
280-144589-15	W-12	Total Recoverable	Water	6010C	469834
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	6010C	469834
LCS 240-469834/2-A	Lab Control Sample	Total Recoverable	Water	6010C	469834

Analysis Batch: 470022

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total Recoverable	Ground Water	6020A	469656
280-144589-2	W-3	Total Recoverable	Ground Water	6020A	469656
280-144589-3	W-3D	Total Recoverable	Ground Water	6020A	469656
280-144589-4	W-5	Total Recoverable	Ground Water	6020A	469656
280-144589-5	W-6	Total Recoverable	Ground Water	6020A	469656
280-144589-9	MW-4B	Total Recoverable	Ground Water	6020A	469656
280-144589-10	MW-5	Total Recoverable	Water	6020A	469656
280-144589-11	MW-6	Total Recoverable	Water	6020A	469656
280-144589-12	MW-6D	Total Recoverable	Water	6020A	469656
280-144589-13	MW-6FB	Total Recoverable	Water	6020A	469656
280-144589-16	W-9	Total Recoverable	Water	6020A	469656
280-144589-17	W-10B	Total Recoverable	Water	6020A	469656
MB 240-469656/1-A	Method Blank	Total Recoverable	Water	6020A	469656
LCS 240-469656/3-A	Lab Control Sample	Total Recoverable	Water	6020A	469656

Analysis Batch: 470038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	7470A	469659
280-144589-2	W-3	Total/NA	Ground Water	7470A	469659

Metals (Continued)

Analysis Batch: 470038 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-3	W-3D	Total/NA	Ground Water	7470A	469659
280-144589-4	W-5	Total/NA	Ground Water	7470A	469659
280-144589-5	W-6	Total/NA	Ground Water	7470A	469659
280-144589-6	MW-1B	Total/NA	Ground Water	7470A	469837
280-144589-7	MW-2B	Total/NA	Ground Water	7470A	469837
280-144589-8	MW-3	Total/NA	Ground Water	7470A	469837
280-144589-9	MW-4B	Total/NA	Ground Water	7470A	469659
280-144589-10	MW-5	Total/NA	Water	7470A	469659
280-144589-11	MW-6	Total/NA	Water	7470A	469659
280-144589-12	MW-6D	Total/NA	Water	7470A	469659
280-144589-13	MW-6FB	Total/NA	Water	7470A	469659
280-144589-14	W-11	Total/NA	Ground Water	7470A	469837
280-144589-15	W-12	Total/NA	Water	7470A	469837
280-144589-16	W-9	Total/NA	Water	7470A	469659
280-144589-17	W-10B	Total/NA	Water	7470A	469659
MB 240-469659/1-A	Method Blank	Total/NA	Water	7470A	469659
MB 240-469837/1-A	Method Blank	Total/NA	Water	7470A	469837
LCS 240-469659/2-A	Lab Control Sample	Total/NA	Water	7470A	469659
LCS 240-469837/2-A	Lab Control Sample	Total/NA	Water	7470A	469837

Analysis Batch: 470172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total Recoverable	Ground Water	6020A	469656
280-144589-2	W-3	Total Recoverable	Ground Water	6020A	469656
280-144589-3	W-3D	Total Recoverable	Ground Water	6020A	469656
280-144589-4	W-5	Total Recoverable	Ground Water	6020A	469656
280-144589-5	W-6	Total Recoverable	Ground Water	6020A	469656
280-144589-6	MW-1B	Total Recoverable	Ground Water	6020A	469834
280-144589-7	MW-2B	Total Recoverable	Ground Water	6020A	469834
280-144589-8	MW-3	Total Recoverable	Ground Water	6020A	469834
280-144589-9	MW-4B	Total Recoverable	Ground Water	6020A	469656
280-144589-10	MW-5	Total Recoverable	Water	6020A	469656
280-144589-11	MW-6	Total Recoverable	Water	6020A	469656
280-144589-12	MW-6D	Total Recoverable	Water	6020A	469656
280-144589-13	MW-6FB	Total Recoverable	Water	6020A	469656
280-144589-14	W-11	Total Recoverable	Ground Water	6020A	469834
280-144589-15	W-12	Total Recoverable	Water	6020A	469834
280-144589-16	W-9	Total Recoverable	Water	6020A	469656
280-144589-17	W-10B	Total Recoverable	Water	6020A	469656
MB 240-469656/1-A	Method Blank	Total Recoverable	Water	6020A	469656
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	6020A	469834
LCS 240-469656/3-A	Lab Control Sample	Total Recoverable	Water	6020A	469656
LCS 240-469834/3-A	Lab Control Sample	Total Recoverable	Water	6020A	469834

Analysis Batch: 470262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-6	MW-1B	Total Recoverable	Ground Water	6020A	469834
280-144589-7	MW-2B	Total Recoverable	Ground Water	6020A	469834
280-144589-8	MW-3	Total Recoverable	Ground Water	6020A	469834
280-144589-14	W-11	Total Recoverable	Ground Water	6020A	469834
280-144589-15	W-12	Total Recoverable	Water	6020A	469834

General Chemistry

Analysis Batch: 523577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	SM 2540D	
280-144589-4	W-5	Total/NA	Ground Water	SM 2540D	
280-144589-5	W-6	Total/NA	Ground Water	SM 2540D	
280-144589-6	MW-1B	Total/NA	Ground Water	SM 2540D	
280-144589-7	MW-2B	Total/NA	Ground Water	SM 2540D	
280-144589-8	MW-3	Total/NA	Ground Water	SM 2540D	
280-144589-10	MW-5	Total/NA	Water	SM 2540D	
280-144589-11	MW-6	Total/NA	Water	SM 2540D	
280-144589-12	MW-6D	Total/NA	Water	SM 2540D	
MB 280-523577/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-523577/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-144589-12 DU	MW-6D	Total/NA	Water	SM 2540D	

Analysis Batch: 523578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-13	MW-6FB	Total/NA	Water	SM 2540D	
280-144589-15	W-12	Total/NA	Water	SM 2540D	
280-144589-16	W-9	Total/NA	Water	SM 2540D	
280-144589-17	W-10B	Total/NA	Water	SM 2540D	
MB 280-523578/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-523578/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-144589-13 DU	MW-6FB	Total/NA	Water	SM 2540D	

Analysis Batch: 523603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	SM 2540C	
280-144589-2	W-3	Total/NA	Ground Water	SM 2540C	
280-144589-3	W-3D	Total/NA	Ground Water	SM 2540C	
280-144589-4	W-5	Total/NA	Ground Water	SM 2540C	
280-144589-6	MW-1B	Total/NA	Ground Water	SM 2540C	
280-144589-7	MW-2B	Total/NA	Ground Water	SM 2540C	
280-144589-8	MW-3	Total/NA	Ground Water	SM 2540C	
280-144589-9	MW-4B	Total/NA	Ground Water	SM 2540C	
280-144589-10	MW-5	Total/NA	Water	SM 2540C	
280-144589-11	MW-6	Total/NA	Water	SM 2540C	
280-144589-12	MW-6D	Total/NA	Water	SM 2540C	
280-144589-13	MW-6FB	Total/NA	Water	SM 2540C	
280-144589-14	W-11	Total/NA	Ground Water	SM 2540C	
280-144589-15	W-12	Total/NA	Water	SM 2540C	
280-144589-16	W-9	Total/NA	Water	SM 2540C	
280-144589-17	W-10B	Total/NA	Water	SM 2540C	
MB 280-523603/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-523603/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-144589-1 DU	W-2A	Total/NA	Ground Water	SM 2540C	

Analysis Batch: 524116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-2	W-3	Total/NA	Ground Water	SM 2540D	
280-144589-3	W-3D	Total/NA	Ground Water	SM 2540D	
280-144589-5 - RA	W-6	Total/NA	Ground Water	SM 2540D	
280-144589-9	MW-4B	Total/NA	Ground Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 524116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-14	W-11	Total/NA	Ground Water	SM 2540D	
MB 280-524116/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-524116/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-144589-9 DU	MW-4B	Total/NA	Ground Water	SM 2540D	

Analysis Batch: 524135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	9040B	
280-144589-2	W-3	Total/NA	Ground Water	9040B	
280-144589-3	W-3D	Total/NA	Ground Water	9040B	
280-144589-4	W-5	Total/NA	Ground Water	9040B	
280-144589-5	W-6	Total/NA	Ground Water	9040B	
280-144589-6	MW-1B	Total/NA	Ground Water	9040B	
280-144589-7	MW-2B	Total/NA	Ground Water	9040B	
280-144589-8	MW-3	Total/NA	Ground Water	9040B	
280-144589-9	MW-4B	Total/NA	Ground Water	9040B	
280-144589-10	MW-5	Total/NA	Water	9040B	
280-144589-11	MW-6	Total/NA	Water	9040B	
280-144589-12	MW-6D	Total/NA	Water	9040B	
280-144589-14	W-11	Total/NA	Ground Water	9040B	
280-144589-15	W-12	Total/NA	Water	9040B	
280-144589-16	W-9	Total/NA	Water	9040B	
280-144589-17	W-10B	Total/NA	Water	9040B	
LCS 280-524135/30	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-524135/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 524351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-13	MW-6FB	Total/NA	Water	9040B	
LCS 280-524351/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 524633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-5	W-6	Total/NA	Ground Water	SM 2540C	
MB 280-524633/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-524633/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-524633/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 524806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	9056A	
280-144589-2	W-3	Total/NA	Ground Water	9056A	
280-144589-3	W-3D	Total/NA	Ground Water	9056A	
280-144589-4	W-5	Total/NA	Ground Water	9056A	
280-144589-4	W-5	Total/NA	Ground Water	9056A	
280-144589-5	W-6	Total/NA	Ground Water	9056A	
280-144589-6	MW-1B	Total/NA	Ground Water	9056A	
280-144589-6	MW-1B	Total/NA	Ground Water	9056A	
280-144589-7	MW-2B	Total/NA	Ground Water	9056A	
280-144589-8	MW-3	Total/NA	Ground Water	9056A	
280-144589-9	MW-4B	Total/NA	Ground Water	9056A	

General Chemistry (Continued)

Analysis Batch: 524806 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-10	MW-5	Total/NA	Water	9056A	
280-144589-11	MW-6	Total/NA	Water	9056A	
280-144589-11	MW-6	Total/NA	Water	9056A	
280-144589-12	MW-6D	Total/NA	Water	9056A	
280-144589-12	MW-6D	Total/NA	Water	9056A	
280-144589-13	MW-6FB	Total/NA	Water	9056A	
280-144589-14	W-11	Total/NA	Ground Water	9056A	
280-144589-14	W-11	Total/NA	Ground Water	9056A	
280-144589-15	W-12	Total/NA	Water	9056A	
280-144589-15	W-12	Total/NA	Water	9056A	
280-144589-16	W-9	Total/NA	Water	9056A	
280-144589-16	W-9	Total/NA	Water	9056A	
280-144589-17	W-10B	Total/NA	Water	9056A	
MB 280-524806/6	Method Blank	Total/NA	Water	9056A	
LCS 280-524806/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-524806/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-524806/3	Lab Control Sample	Total/NA	Water	9056A	
280-144589-2 MS	W-3	Total/NA	Ground Water	9056A	
280-144589-2 MSD	W-3	Total/NA	Ground Water	9056A	
280-144589-2 DU	W-3	Total/NA	Ground Water	9056A	

Analysis Batch: 524918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-6	MW-1B	Total/NA	Ground Water	9056A	
280-144589-9	MW-4B	Total/NA	Ground Water	9056A	
MB 280-524918/6	Method Blank	Total/NA	Water	9056A	
LCS 280-524918/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-524918/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-524918/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 525571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-2	W-3	Total/NA	Ground Water	9056A	
280-144589-3	W-3D	Total/NA	Ground Water	9056A	
280-144589-4	W-5	Total/NA	Ground Water	9056A	
280-144589-7	MW-2B	Total/NA	Ground Water	9056A	
280-144589-10	MW-5	Total/NA	Water	9056A	
280-144589-11	MW-6	Total/NA	Water	9056A	
280-144589-12	MW-6D	Total/NA	Water	9056A	
280-144589-14	W-11	Total/NA	Ground Water	9056A	
280-144589-15	W-12	Total/NA	Water	9056A	
280-144589-16	W-9	Total/NA	Water	9056A	
MB 280-525571/6	Method Blank	Total/NA	Water	9056A	
LCS 280-525571/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-525571/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-525571/3	Lab Control Sample	Total/NA	Water	9056A	
280-144589-2 MS	W-3	Total/NA	Ground Water	9056A	
280-144589-2 MSD	W-3	Total/NA	Ground Water	9056A	
280-144589-2 DU	W-3	Total/NA	Ground Water	9056A	

QC Association Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry

Analysis Batch: 525738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	9056A	
280-144589-17	W-10B	Total/NA	Water	9056A	
MB 280-525738/6	Method Blank	Total/NA	Water	9056A	
LCS 280-525738/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-525738/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-525738/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 525844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-5	W-6	Total/NA	Ground Water	9056A	
280-144589-8	MW-3	Total/NA	Ground Water	9056A	
MB 280-525844/6	Method Blank	Total/NA	Water	9056A	
LCS 280-525844/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-525844/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-525844/3	Lab Control Sample	Total/NA	Water	9056A	

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:09	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:35	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470172	01/21/21 17:17	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:32	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 22:01	CJ	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525738	02/08/21 18:10	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524806	01/28/21 18:38	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	160 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-2
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:14	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:42	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:19	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:34	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:44	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 18:55	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	525571	02/05/21 17:07	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	524116	01/20/21 10:59	LEB	TAL DEN

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-3
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:18	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:45	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:22	DSH	TAL CAN

Client Sample ID: W-3D
Lab Sample ID: 280-144589-3
Date Collected: 01/13/21 16:10
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:36	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:33	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 20:00	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	525571	02/05/21 18:13	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	524116	01/20/21 10:59	LEB	TAL DEN

Client Sample ID: W-5
Lab Sample ID: 280-144589-4
Date Collected: 01/12/21 14:28
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:22	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:47	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			470172	01/21/21 17:24	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:38	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:26	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 20:17	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/28/21 20:33	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	525571	02/05/21 18:29	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: W-6
Lab Sample ID: 280-144589-5
Date Collected: 01/12/21 12:15
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:27	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:50	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:27	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:40	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 21:33	CJ	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	525844	02/09/21 18:57	JMB	TAL DEN

Client Sample ID: W-6
Lab Sample ID: 280-144589-5

Date Collected: 01/12/21 12:15
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 20:49	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	524633	01/26/21 13:59	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN
Total/NA	Analysis	SM 2540D	RA	1	250 mL	250 mL	524116	01/20/21 10:59	LEB	TAL DEN

Client Sample ID: MW-1B
Lab Sample ID: 280-144589-6

Date Collected: 01/12/21 16:25
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/21/21 11:46	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 19:01	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470262	01/22/21 15:20	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 15:42	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:41	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 21:55	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/28/21 22:12	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	524918	01/30/21 15:09	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-2B
Lab Sample ID: 280-144589-7

Date Collected: 01/13/21 11:30
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/21/21 11:50	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 19:04	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470262	01/22/21 15:23	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 15:44	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 21:44	CJ	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/28/21 22:44	JMB	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	525571	02/05/21 19:02	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-8
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/21/21 11:55	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 19:06	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470262	01/22/21 15:25	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 15:46	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 22:04	CJ	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525844	02/09/21 19:47	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/28/21 23:17	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-9
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:31	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:52	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			470172	01/21/21 17:30	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:42	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:37	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/28/21 23:34	JMB	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	524918	01/30/21 14:36	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	524116	01/20/21 10:59	LEB	TAL DEN

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:36	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:55	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470172	01/21/21 17:32	DSH	TAL CAN

Client Sample ID: MW-5
Lab Sample ID: 280-144589-10
Date Collected: 01/12/21 11:15
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:44	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:30	CJ	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	524806	01/29/21 00:56	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	525571	02/05/21 20:08	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-6
Lab Sample ID: 280-144589-11
Date Collected: 01/12/21 14:20
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:40	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 15:58	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:39	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:51	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 22:08	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 01:12	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/29/21 01:29	JMB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	525571	02/05/21 20:24	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-6D
Lab Sample ID: 280-144589-12
Date Collected: 01/12/21 14:25
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:45	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 16:00	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:42	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:53	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 22:12	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 01:45	JMB	TAL DEN

Client Sample ID: MW-6D
Lab Sample ID: 280-144589-12
Date Collected: 01/12/21 14:25
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/29/21 02:02	JMB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	525571	02/05/21 20:41	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523577	01/14/21 16:09	JMH	TAL DEN

Client Sample ID: MW-6FB
Lab Sample ID: 280-144589-13
Date Collected: 01/12/21 15:15
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 19:58	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 16:03	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 17:45	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:55	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524351	01/21/21 19:13	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 02:18	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523578	01/14/21 16:13	JMH	TAL DEN

Client Sample ID: W-11
Lab Sample ID: 280-144589-14
Date Collected: 01/13/21 13:55
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/21/21 12:00	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 19:09	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470262	01/22/21 15:28	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 15:48	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 20:22	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 02:34	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/29/21 02:51	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	525571	02/05/21 20:57	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	524116	01/20/21 10:59	LEB	TAL DEN

Client Sample ID: W-12
Lab Sample ID: 280-144589-15
Date Collected: 01/13/21 15:30
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/21/21 12:04	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 19:11	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470262	01/22/21 15:30	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 15:50	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 21:58	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 03:07	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524806	01/29/21 03:24	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	525571	02/05/21 21:13	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523578	01/14/21 16:13	JMH	TAL DEN

Client Sample ID: W-9
Lab Sample ID: 280-144589-16
Date Collected: 01/13/21 14:00
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 20:02	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 16:05	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			470172	01/21/21 17:47	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:57	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 21:36	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524806	01/29/21 04:14	JMB	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	524806	01/29/21 04:30	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	525571	02/05/21 21:30	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523578	01/14/21 16:13	JMH	TAL DEN

Client Sample ID: W-10B
Lab Sample ID: 280-144589-17
Date Collected: 01/13/21 13:10
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			469971	01/20/21 20:07	WKD	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470022	01/20/21 16:13	DSH	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-10B
Lab Sample ID: 280-144589-17

Date Collected: 01/13/21 13:10
Matrix: Water

Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	469656	01/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			470172	01/21/21 17:50	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	469659	01/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 14:59	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 21:40	CJ	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525738	02/08/21 18:59	JMB	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	524806	01/29/21 05:03	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523603	01/14/21 17:31	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523578	01/14/21 16:13	JMH	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-144589-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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
9040B		Ground Water	Temperature
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: Emerson H. Tatum	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No: 1
Client Contact: Molly Reeves	Phone: 720 273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 1 of 2
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)
Other:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appli+IV, 7470A Hg	Dissolved 6010C Boron, 6020A Appli+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of Containers	Special Instructions/Note:
~~W-1~~				Water									
W-2A	01/13/21	1020	G	Water	N	2	1	1	1	1	2		
~~W-2B~~	01/12/21	1145	G	Water	N	2	1	1	1	1	2		
W-3	01/13/21	1600	G	Water	N	2	1	2	1	1	2		
~~W-4~~ W-3D	01/13/21	1610	G	Water	N	2	1	2	1	1	2		
W-5	01/12/21	1423	G	Water	N	N	1	1	1	1	2		
W-6	01/12/21	1425	G	Water	N	N	1	1	1	1	2		
~~W-7~~				Water									
~~W-8A~~				Water									
~~W-8B~~				Water									
MW-1B	01/12/21	1625	G	Water	N	N	1	1	1	1	2		

280-144589 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

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:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by: Hailey Tatum	Date/Time: 01/14/2021 @ 8:30	Company: HDR	Received by:	Date/Time: 1/14/21 0830	Company: TA Denver
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No
Custody Seal No.: 10x7999 | 1522545 | 1522543 | 1522546 | 1522541

Cooler Temperature(s) °C and Other Remarks: 1.3°C, 2.5°C, 4.6°C, 3.1°C; #9; +.3°C IR

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

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Client Information	Sampler: E.Munoz + H. Tatum	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: (720)273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 2 of 2
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+iV, 7470A Hg	Dissolved 6010C Boron, 6020A Appiii+iV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D	N	N	D		
MW-2 B	01/13/21	1130	G	Water	N	N	1	1		1	1	2	6	
MW-3	01/12/21	0920	G	Water	N	N	1	1		1	1	2	6	
MW-4 B	01/13/21	0940	G	Water	N	N	1	1		1	1	2	6	
MW-5	01/12/21	1115	G	Water	N	N	1	1		1	1	2	6	
MW-6	01/12/21	1420	G	Water	N	N	1	1		1	1	2	6	
~~MW-60 DUP~~	01/12/21	1425	G	Water	N	N	1	1		1	1	2	6	
~~MW-60B EB~~	01/12/21	1515	G	Water	N	N	1	1		1	1	2	6	
W-11	01/13/21	1355	G	Water	N	N	1	1		1	1	2	6	
W-12	01/13/21	1530	G	Water	N	N	1	1		1	1	2	6	
W-9	01/13/21	1400	G	Water	N	N	1	1		1	1	2	6	
W-10B	01/13/21	1310	G	Water	N	N	1	1		1	1	2	6	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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: Hailey Tatum	Date/Time: 01/14/2021 @ 8:30	Company HDR	Received by:	Date/Time: 1/14/21 0830	Company TA Denver
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

8.9.20

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554542.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144589-1
Address: 4101 Shuffel Street NW.	Due Date Requested: 2/3/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								558
W-2A (280-144589-1)	1/13/21	10:20 Mountain		Water			X	X	X	1	Use Collision Cell
W-3 (280-144589-2)	1/13/21	16:00 Mountain		Water			X	X	X	2	Use Collision Cell
W-3D (280-144589-3)	1/13/21	16:10 Mountain		Water			X	X	X	2	Use Collision Cell
W-5 (280-144589-4)	1/12/21	14:28 Mountain		Water			X	X	X	1	Use Collision Cell
W-6 (280-144589-5)	1/12/21	12:15 Mountain		Water			X	X	X	1	Use Collision Cell
MW-1B (280-144589-6)	1/12/21	16:25 Mountain		Water			X	X	X	1	Use Collision Cell
MW-2B (280-144589-7)	1/13/21	11:30 Mountain		Water			X	X	X	1	Use Collision Cell
MW-3 (280-144589-8)	1/12/21	09:20 Mountain		Water			X	X	X	1	Use Collision Cell
MW-4B (280-144589-9)	1/13/21	09:40 Mountain		Water			X	X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/15/21 1335			1-16-21 1010	EHA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

2/16/2021

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554542.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144589-1
Address: 4101 Shuffel Street NW, .	Due Date Requested: 2/3/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	Z - other (specify)

Other:

Analysis Requested

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-5 (280-144589-10)	1/12/21	11:15 Mountain		Water			X	X	X	1	Use Collision Cell
MW-6 (280-144589-11)	1/12/21	14:20 Mountain		Water			X	X	X	1	Use Collision Cell
MW-6D (280-144589-12)	1/12/21	14:25 Mountain		Water			X	X	X	1	Use Collision Cell
MW-6FB (280-144589-13)	1/12/21	15:15 Mountain		Water			X	X	X	1	Use Collision Cell
W-11 (280-144589-14)	1/13/21	13:55 Mountain		Water			X	X	X	1	Use Collision Cell
W-12 (280-144589-15)	1/13/21	15:30 Mountain		Water			X	X	X	1	Use Collision Cell
W-9 (280-144589-16)	1/13/21	14:00 Mountain		Water			X	X	X	1	Use Collision Cell
W-10B (280-144589-17)	1/13/21	13:10 Mountain		Water			X	X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
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:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Matt

Cooler Received on 1-16-21 Opened on 1-18-21

FedEx: 1st Grd (Exp) ~~UPS~~ FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 10 Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water (None)

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 3.9 °C Corrected Cooler Temp. 4.0 °C

IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC297861
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144589-1

Login Number: 144589
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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.	N/A	
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	

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-144589-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Stephanie Rothmeyer

Authorized for release by:
2/12/2021 1:59:10 PM
Stephanie Rothmeyer, Project Manager I
(303)736-0182
stephanie.rothmeyer@eurofinset.com

Designee for

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

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

Job ID: 280-144589-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-144589-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This report may include data with reporting limits (RLs) less than TestAmerica's standard reporting limit. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require.

RECEIPT

The samples were received on 1/14/2021 at 8:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 0.4º C, 1.5º C, 2.3º C, 2.7º C, 3.4º C and 4.8º C.

The following samples were received at ETASTL with pHs ranging from 4-7 s.u. upon receipt (two 1L bottles per sample). 6mL of Nitric Acid was added to each bottle, which successfully reduced the pH to <2 for all: MW-1B (280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-5 (280-144589-10), W-11 (280-144589-14), W-12 (280-144589-15), W-10B (280-144589-17).

RADIUM-226 (GFPC)

Samples W-2A (280-144589-1), W-3 (280-144589-2), W-3D (280-144589-3), W-5 (280-144589-4), W-6 (280-144589-5), MW-1B (280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-4B (280-144589-9), MW-5 (280-144589-10), MW-6 (280-144589-11), MW-6D (280-144589-12), MW-6FB (280-144589-13), W-11 (280-144589-14), W-12 (280-144589-15), W-9 (280-144589-16) and W-10B (280-144589-17) were analyzed for Radium-226 (GFPC) in accordance with SW 846 9315. The samples were prepared on 01/19/2021 and analyzed on 02/10/2021.

Insufficient sample volume was available to perform a sample duplicate for batches 160-495673, 160-495701, and 160-495695. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

The following samples were prepared at a reduced aliquot due to yellow discoloration and/or cloudy appearance: W-2A (280-144589-1), MW-1B (280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-5 (280-144589-10), W-11 (280-144589-14), W-12 (280-144589-15), W-9 (280-144589-16), W-10B (280-144589-17).

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

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

RADIUM-228

Samples W-2A (280-144589-1), W-3 (280-144589-2), W-3D (280-144589-3), W-5 (280-144589-4), W-6 (280-144589-5), MW-1B

Job ID: 280-144589-2 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

(280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-4B (280-144589-9), MW-5 (280-144589-10), MW-6 (280-144589-11), MW-6D (280-144589-12), MW-6FB (280-144589-13), W-11 (280-144589-14), W-12 (280-144589-15), W-9 (280-144589-16) and W-10B (280-144589-17) were analyzed for Radium-228 in accordance with 9320. The samples were prepared on 01/19/2021 and 02/04/2021 and analyzed on 01/29/2021, 02/01/2021 and 02/10/2021.

Radium-228 failed the recovery criteria high for LCS 160-495676/1-A and LCSD 160-495676/2-A. This analyte was not observed above the MDC/RL in the associated samples; therefore, the sample data is not adversely affected by this excursion. The data have been reported.

The following samples were prepared at a reduced aliquot due to limited volume remaining for re-analysis: MW-6D (280-144589-12). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

The following samples were prepared at a reduced aliquot: W-11 (280-144589-14), W-12 (280-144589-15) and W-10B (280-144589-17).

The following samples were prepared at a reduced aliquot due to yellow discoloration and/or cloudy appearance: W-2A (280-144589-1), W-3 (280-144589-2), MW-1B (280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-5 (280-144589-10), W-11 (280-144589-14), W-12 (280-144589-15), W-9 (280-144589-16), W-10B (280-144589-17).

Insufficient sample volume was available to perform a sample duplicate for batch 160-495676. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date.

The following sample did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interferences: W-10B (280-144589-17).

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

RADIUM-226/RADIUM-228 (GFPC)

Samples W-2A (280-144589-1), W-3 (280-144589-2), W-3D (280-144589-3), W-5 (280-144589-4), W-6 (280-144589-5), MW-1B (280-144589-6), MW-2B (280-144589-7), MW-3 (280-144589-8), MW-4B (280-144589-9), MW-5 (280-144589-10), MW-6 (280-144589-11), MW-6D (280-144589-12), MW-6FB (280-144589-13), W-11 (280-144589-14), W-12 (280-144589-15), W-9 (280-144589-16) and W-10B (280-144589-17) were analyzed for Radium-226/Radium-228 (GFPC) in accordance with 9315/9320. The samples were analyzed on 02/11/2021.

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

Method Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-144589-1	W-2A	Ground Water	01/13/21 10:20	01/14/21 08:30	
280-144589-2	W-3	Ground Water	01/13/21 16:00	01/14/21 08:30	
280-144589-3	W-3D	Ground Water	01/13/21 16:10	01/14/21 08:30	
280-144589-4	W-5	Ground Water	01/12/21 14:28	01/14/21 08:30	
280-144589-5	W-6	Ground Water	01/12/21 12:15	01/14/21 08:30	
280-144589-6	MW-1B	Ground Water	01/12/21 16:25	01/14/21 08:30	
280-144589-7	MW-2B	Ground Water	01/13/21 11:30	01/14/21 08:30	
280-144589-8	MW-3	Ground Water	01/12/21 09:20	01/14/21 08:30	
280-144589-9	MW-4B	Ground Water	01/13/21 09:40	01/14/21 08:30	
280-144589-10	MW-5	Water	01/12/21 11:15	01/14/21 08:30	
280-144589-11	MW-6	Water	01/12/21 14:20	01/14/21 08:30	
280-144589-12	MW-6D	Water	01/12/21 14:25	01/14/21 08:30	
280-144589-13	MW-6FB	Water	01/12/21 15:15	01/14/21 08:30	
280-144589-14	W-11	Ground Water	01/13/21 13:55	01/14/21 08:30	
280-144589-15	W-12	Water	01/13/21 15:30	01/14/21 08:30	
280-144589-16	W-9	Water	01/13/21 14:00	01/14/21 08:30	
280-144589-17	W-10B	Water	01/13/21 13:10	01/14/21 08:30	

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.53**		0.252	0.288	1.00	0.132	pCi/L	01/19/21 14:59	02/10/21 10:13	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.3*		*40 - 110*	*01/19/21 14:59*	*02/10/21 10:13*	*1*

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0504	U	0.0648	0.0650	1.00	0.108	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.3*		*40 - 110*	*01/19/21 14:59*	*02/10/21 10:14*	*1*

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0571	U	0.0596	0.0598	1.00	0.0937	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.6*		*40 - 110*	*01/19/21 14:59*	*02/10/21 10:14*	*1*

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.198**		0.0965	0.0981	1.00	0.121	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.6*		*40 - 110*	*01/19/21 14:59*	*02/10/21 10:14*	*1*

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.503**		0.187	0.192	1.00	0.191	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.7*		*40 - 110*	*01/19/21 14:59*	*02/10/21 10:14*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.402		0.139	0.143	1.00	0.130	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110	01/19/21 14:59	02/10/21 10:14	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.02		0.209	0.228	1.00	0.159	pCi/L	01/19/21 14:59	02/10/21 10:14	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	01/19/21 14:59	02/10/21 10:14	1

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.34		0.237	0.266	1.00	0.128	pCi/L	01/19/21 14:59	02/10/21 12:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110	01/19/21 14:59	02/10/21 12:17	1

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.574		0.131	0.141	1.00	0.0905	pCi/L	01/19/21 14:59	02/10/21 12:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.5		40 - 110	01/19/21 14:59	02/10/21 12:17	1

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0830	U	0.0864	0.0867	1.00	0.136	pCi/L	01/19/21 14:59	02/10/21 12:18	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110	01/19/21 14:59	02/10/21 12:18	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.424		0.122	0.128	1.00	0.101	pCi/L	01/19/21 10:37	02/10/21 12:19	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.2		40 - 110	01/19/21 10:37	02/10/21 12:19	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.516		0.136	0.144	1.00	0.124	pCi/L	01/19/21 10:37	02/10/21 12:20	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.9		40 - 110	01/19/21 10:37	02/10/21 12:20	1

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0146	U	0.0554	0.0554	1.00	0.107	pCi/L	01/19/21 10:37	02/10/21 12:21	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110	01/19/21 10:37	02/10/21 12:21	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.60		0.263	0.300	1.00	0.129	pCi/L	01/19/21 10:37	02/10/21 12:22	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		40 - 110	01/19/21 10:37	02/10/21 12:22	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.701		0.186	0.197	1.00	0.140	pCi/L	01/19/21 10:37	02/10/21 12:22	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	75.8		40 - 110	01/19/21 10:37	02/10/21 12:22	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.04		0.215	0.234	1.00	0.127	pCi/L	01/19/21 10:37	02/10/21 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.8*		*40 - 110*	*01/19/21 10:37*	*02/10/21 12:22*	*1*

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.32		0.335	0.356	1.00	0.244	pCi/L	01/19/21 10:37	02/10/21 12:22	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.1*		*40 - 110*	*01/19/21 10:37*	*02/10/21 12:22*	*1*

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.35		0.528	0.571	1.00	0.594	pCi/L	01/19/21 16:04	01/29/21 08:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.3*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:45*	*1*
Y Carrier	*81.9*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:45*	*1*

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0976	U	0.277	0.277	1.00	0.480	pCi/L	01/19/21 16:04	01/29/21 08:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*78.3*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:45*	*1*
Y Carrier	*82.6*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:45*	*1*

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.310	U	0.293	0.294	1.00	0.474	pCi/L	01/19/21 16:04	01/29/21 08:45	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110	01/19/21 16:04	01/29/21 08:45	1
Y Carrier	86.0		40 - 110	01/19/21 16:04	01/29/21 08:45	1

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.252	U	0.275	0.276	1.00	0.450	pCi/L	01/19/21 16:04	01/29/21 08:46	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.6		40 - 110	01/19/21 16:04	01/29/21 08:46	1
Y Carrier	85.2		40 - 110	01/19/21 16:04	01/29/21 08:46	1

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.435	U	0.404	0.406	1.00	0.649	pCi/L	01/19/21 16:04	01/29/21 08:46	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.7		40 - 110	01/19/21 16:04	01/29/21 08:46	1
Y Carrier	87.5		40 - 110	01/19/21 16:04	01/29/21 08:46	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.04**		0.366	0.378	1.00	0.473	pCi/L	01/19/21 16:04	01/29/21 08:46	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110	01/19/21 16:04	01/29/21 08:46	1
Y Carrier	86.7		40 - 110	01/19/21 16:04	01/29/21 08:46	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.44**		0.565	0.648	1.00	0.568	pCi/L	01/19/21 16:04	01/29/21 08:47	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	01/19/21 16:04	01/29/21 08:47	1
Y Carrier	85.2		40 - 110	01/19/21 16:04	01/29/21 08:47	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.14		0.452	0.464	1.00	0.634	pCi/L	01/19/21 16:04	01/29/21 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.7*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*
Y Carrier	*84.1*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.400	U	0.275	0.277	1.00	0.428	pCi/L	01/19/21 16:04	01/29/21 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.5*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*
Y Carrier	*86.4*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.461	U	0.356	0.359	1.00	0.560	pCi/L	01/19/21 16:04	01/29/21 08:47	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*83.2*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*
Y Carrier	*87.5*		*40 - 110*	*01/19/21 16:04*	*01/29/21 08:47*	*1*

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.352	U *	0.316	0.318	1.00	0.509	pCi/L	01/19/21 11:04	02/01/21 08:21	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.2*		*40 - 110*	*01/19/21 11:04*	*02/01/21 08:21*	*1*
Y Carrier	*72.9*		*40 - 110*	*01/19/21 11:04*	*02/01/21 08:21*	*1*

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0199	U	0.354	0.354	1.00	0.629	pCi/L	02/04/21 11:51	02/10/21 09:39	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.5		40 - 110	02/04/21 11:51	02/10/21 09:39	1
Y Carrier	86.0		40 - 110	02/04/21 11:51	02/10/21 09:39	1

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0308	U *	0.254	0.254	1.00	0.454	pCi/L	01/19/21 11:04	02/01/21 08:21	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.3		40 - 110	01/19/21 11:04	02/01/21 08:21	1
Y Carrier	76.6		40 - 110	01/19/21 11:04	02/01/21 08:21	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.89**		0.514	0.542	1.00	0.649	pCi/L	02/04/21 11:51	02/10/21 09:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	77.5		40 - 110	02/04/21 11:51	02/10/21 09:39	1
Y Carrier	86.7		40 - 110	02/04/21 11:51	02/10/21 09:39	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.15**		0.427	0.440	1.00	0.574	pCi/L	02/04/21 11:51	02/10/21 09:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.2		40 - 110	02/04/21 11:51	02/10/21 09:39	1
Y Carrier	87.5		40 - 110	02/04/21 11:51	02/10/21 09:39	1

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.384	U *	0.386	0.387	1.00	0.627	pCi/L	01/19/21 11:04	02/01/21 08:21	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110	01/19/21 11:04	02/01/21 08:21	1
Y Carrier	80.4		40 - 110	01/19/21 11:04	02/01/21 08:21	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**2.38**	**G**	0.806	0.835	1.00	1.08	pCi/L	02/04/21 11:51	02/10/21 09:39	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*66.7*		*40 - 110*	*02/04/21 11:51*	*02/10/21 09:39*	*1*
Y Carrier	*87.9*		*40 - 110*	*02/04/21 11:51*	*02/10/21 09:39*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-2A
Date Collected: 01/13/21 10:20
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**3.88**		0.585	0.640	5.00	0.594	pCi/L		02/11/21 10:36	1

Client Sample ID: W-3
Date Collected: 01/13/21 16:00
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.148	U	0.284	0.285	5.00	0.480	pCi/L		02/11/21 10:36	1

Client Sample ID: W-3D
Date Collected: 01/13/21 16:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.367	U	0.299	0.300	5.00	0.474	pCi/L		02/11/21 10:36	1

Client Sample ID: W-5
Date Collected: 01/12/21 14:28
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-4
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.450**		0.291	0.293	5.00	0.450	pCi/L		02/11/21 10:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-6
Date Collected: 01/12/21 12:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-5
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.938		0.445	0.449	5.00	0.649	pCi/L		02/11/21 10:36	1

Client Sample ID: MW-1B
Date Collected: 01/12/21 16:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-6
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.44		0.392	0.404	5.00	0.473	pCi/L		02/11/21 10:36	1

Client Sample ID: MW-2B
Date Collected: 01/13/21 11:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-7
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.46		0.602	0.687	5.00	0.568	pCi/L		02/11/21 10:36	1

Client Sample ID: MW-3
Date Collected: 01/12/21 09:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-8
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.48		0.510	0.535	5.00	0.634	pCi/L		02/11/21 10:36	1

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-9
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.973		0.305	0.311	5.00	0.428	pCi/L		02/11/21 10:36	1

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.544	U	0.366	0.369	5.00	0.560	pCi/L		02/11/21 10:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.775**		0.339	0.343	5.00	0.509	pCi/L		02/11/21 19:47	1

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.536	U	0.379	0.382	5.00	0.629	pCi/L		02/11/21 19:47	1

Client Sample ID: MW-6FB
Date Collected: 01/12/21 15:15
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0454	U	0.260	0.260	5.00	0.454	pCi/L		02/11/21 19:47	1

Client Sample ID: W-11
Date Collected: 01/13/21 13:55
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-14
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**3.49**		0.577	0.619	5.00	0.649	pCi/L		02/11/21 19:47	1

Client Sample ID: W-12
Date Collected: 01/13/21 15:30
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.85**		0.466	0.482	5.00	0.574	pCi/L		02/11/21 19:47	1

Client Sample ID: W-9
Date Collected: 01/13/21 14:00
Date Received: 01/14/21 08:30
Lab Sample ID: 280-144589-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.43**		0.442	0.452	5.00	0.627	pCi/L		02/11/21 19:47	1

Client Sample Results

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.71		0.873	0.908	5.00	1.08	pCi/L		02/11/21 19:47	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-495673/11-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495673

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01898	U	0.0498	0.0498	1.00	0.0945	pCi/L	01/19/21 10:37	02/10/21 16:13	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.4*		*40 - 110*	*01/19/21 10:37*	*02/10/21 16:13*	*1*

Lab Sample ID: LCS 160-495673/1-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495673

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	11.15		1.17	1.00	0.137	pCi/L	98	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.4*		*40 - 110*

Lab Sample ID: LCSD 160-495673/2-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495673

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	11.38		1.20	1.00	0.124	pCi/L	100	75 - 125	0.1	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*73.4*		*40 - 110*

Lab Sample ID: MB 160-495695/23-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495695

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.04747	U	0.0718	0.0720	1.00	0.124	pCi/L	01/19/21 14:59	02/10/21 12:18	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.5*		*40 - 110*	*01/19/21 14:59*	*02/10/21 12:18*	*1*

Lab Sample ID: LCS 160-495695/1-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495695

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	14.69		1.51	1.00	0.128	pCi/L	97	75 - 125		

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-495695/1-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495695

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.2		40 - 110

Lab Sample ID: LCSD 160-495695/2-A
Matrix: Water
Analysis Batch: 498384

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495695

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	14.47		1.50	1.00	0.118	pCi/L	96	75 - 125	0.07	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	83.8		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-495676/11-A
Matrix: Water
Analysis Batch: 497254

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495676

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.08736	U	0.259	0.259	1.00	0.450	pCi/L	01/19/21 11:04	02/01/21 08:23	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.4		40 - 110	01/19/21 11:04	02/01/21 08:23	1
Y Carrier	79.6		40 - 110	01/19/21 11:04	02/01/21 08:23	1

Lab Sample ID: LCS 160-495676/1-A
Matrix: Water
Analysis Batch: 497250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495676

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			7.46	10.26	*	1.25	1.00	0.523	pCi/L	138	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	80.4		40 - 110
Y Carrier	74.0		40 - 110

Lab Sample ID: LCSD 160-495676/2-A
Matrix: Water
Analysis Batch: 497250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495676

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			7.46	10.59	*	1.29	1.00	0.510	pCi/L	142	75 - 125	0.13	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-495676/2-A
Matrix: Water
Analysis Batch: 497250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495676

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	73.4		40 - 110
Y Carrier	75.1		40 - 110

Lab Sample ID: MB 160-495701/23-A
Matrix: Water
Analysis Batch: 497166

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495701

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1516	U	0.309	0.309	1.00	0.528	pCi/L	01/19/21 16:04	01/29/21 08:47	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.5		40 - 110	01/19/21 16:04	01/29/21 08:47	1
Y Carrier	89.3		40 - 110	01/19/21 16:04	01/29/21 08:47	1

Lab Sample ID: LCS 160-495701/1-A
Matrix: Water
Analysis Batch: 497251

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495701

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.96	11.98		1.49	1.00	0.669	pCi/L	120	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	87.2		40 - 110
Y Carrier	74.0		40 - 110

Lab Sample ID: LCSD 160-495701/2-A
Matrix: Water
Analysis Batch: 497251

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495701

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.96	12.28		1.51	1.00	0.683	pCi/L	123	75 - 125	0.1	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	83.8		40 - 110
Y Carrier	79.3		40 - 110

Lab Sample ID: MB 160-497771/14-A
Matrix: Water
Analysis Batch: 498397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497771

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3884	U	0.355	0.357	1.00	0.568	pCi/L	02/04/21 11:51	02/10/21 09:40	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: MB 160-497771/14-A
Matrix: Water
Analysis Batch: 498397

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 497771

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	72.4		40 - 110	02/04/21 11:51	02/10/21 09:40	1
Y Carrier	84.5		40 - 110	02/04/21 11:51	02/10/21 09:40	1

Lab Sample ID: LCS 160-497771/1-A
Matrix: Water
Analysis Batch: 498397

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 497771

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.92	10.34		1.32	1.00	0.643	pCi/L	104	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	77.5		40 - 110
Y Carrier	88.2		40 - 110

Lab Sample ID: LCSD 160-497771/2-A
Matrix: Water
Analysis Batch: 498397

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 497771

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.92	9.833		1.26	1.00	0.602	pCi/L	99	75 - 125	0.20	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	82.3		40 - 110
Y Carrier	86.0		40 - 110

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Prep Batch: 495673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-11	MW-6	Total/NA	Water	PrecSep-21	
280-144589-12	MW-6D	Total/NA	Water	PrecSep-21	
280-144589-13	MW-6FB	Total/NA	Water	PrecSep-21	
280-144589-14	W-11	Total/NA	Ground Water	PrecSep-21	
280-144589-15	W-12	Total/NA	Water	PrecSep-21	
280-144589-16	W-9	Total/NA	Water	PrecSep-21	
280-144589-17	W-10B	Total/NA	Water	PrecSep-21	
MB 160-495673/11-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-495673/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-495673/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 495676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-11	MW-6	Total/NA	Water	PrecSep_0	
280-144589-13	MW-6FB	Total/NA	Water	PrecSep_0	
280-144589-16	W-9	Total/NA	Water	PrecSep_0	
MB 160-495676/11-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-495676/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-495676/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 495695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	PrecSep-21	
280-144589-2	W-3	Total/NA	Ground Water	PrecSep-21	
280-144589-3	W-3D	Total/NA	Ground Water	PrecSep-21	
280-144589-4	W-5	Total/NA	Ground Water	PrecSep-21	
280-144589-5	W-6	Total/NA	Ground Water	PrecSep-21	
280-144589-6	MW-1B	Total/NA	Ground Water	PrecSep-21	
280-144589-7	MW-2B	Total/NA	Ground Water	PrecSep-21	
280-144589-8	MW-3	Total/NA	Ground Water	PrecSep-21	
280-144589-9	MW-4B	Total/NA	Ground Water	PrecSep-21	
280-144589-10	MW-5	Total/NA	Water	PrecSep-21	
MB 160-495695/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-495695/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-495695/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 495701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-1	W-2A	Total/NA	Ground Water	PrecSep_0	
280-144589-2	W-3	Total/NA	Ground Water	PrecSep_0	
280-144589-3	W-3D	Total/NA	Ground Water	PrecSep_0	
280-144589-4	W-5	Total/NA	Ground Water	PrecSep_0	
280-144589-5	W-6	Total/NA	Ground Water	PrecSep_0	
280-144589-6	MW-1B	Total/NA	Ground Water	PrecSep_0	
280-144589-7	MW-2B	Total/NA	Ground Water	PrecSep_0	
280-144589-8	MW-3	Total/NA	Ground Water	PrecSep_0	
280-144589-9	MW-4B	Total/NA	Ground Water	PrecSep_0	
280-144589-10	MW-5	Total/NA	Water	PrecSep_0	
MB 160-495701/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-495701/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-495701/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

QC Association Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 497771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144589-12	MW-6D	Total/NA	Water	PrecSep_0	
280-144589-14	W-11	Total/NA	Ground Water	PrecSep_0	
280-144589-15	W-12	Total/NA	Water	PrecSep_0	
280-144589-17	W-10B	Total/NA	Water	PrecSep_0	
MB 160-497771/14-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-497771/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-497771/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2A
Lab Sample ID: 280-144589-1
Date Collected: 01/13/21 10:20
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.29 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:13	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.29 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:45	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: W-3
Lab Sample ID: 280-144589-2
Date Collected: 01/13/21 16:00
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.46 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.46 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:45	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: W-3D
Lab Sample ID: 280-144589-3
Date Collected: 01/13/21 16:10
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.70 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.70 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:45	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: W-5
Lab Sample ID: 280-144589-4
Date Collected: 01/12/21 14:28
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.44 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.44 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:46	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-6
Lab Sample ID: 280-144589-5
Date Collected: 01/12/21 12:15
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			499.54 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			499.54 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:46	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: MW-1B
Lab Sample ID: 280-144589-6
Date Collected: 01/12/21 16:25
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.64 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.64 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497251	01/29/21 08:46	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: MW-2B
Lab Sample ID: 280-144589-7
Date Collected: 01/13/21 11:30
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.49 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 10:14	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.49 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497166	01/29/21 08:47	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: MW-3
Lab Sample ID: 280-144589-8
Date Collected: 01/12/21 09:20
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.75 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.75 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497166	01/29/21 08:47	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-4B
Date Collected: 01/13/21 09:40
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-9
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.20 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:17	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.20 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497166	01/29/21 08:47	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: MW-5
Date Collected: 01/12/21 11:15
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.69 mL	1.0 g	495695	01/19/21 14:59	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:18	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.69 mL	1.0 g	495701	01/19/21 16:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497166	01/29/21 08:47	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498538	02/11/21 10:36	SCB	TAL SL

Client Sample ID: MW-6
Date Collected: 01/12/21 14:20
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.92 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:19	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.92 mL	1.0 g	495676	01/19/21 11:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:21	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Client Sample ID: MW-6D
Date Collected: 01/12/21 14:25
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.95 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:20	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.05 mL	1.0 g	497771	02/04/21 11:51	KMP	TAL SL
Total/NA	Analysis	9320		1			498397	02/10/21 09:39	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-6FB
Lab Sample ID: 280-144589-13
Date Collected: 01/12/21 15:15
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			999.13 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:21	ANW	TAL SL
Total/NA	Prep	PrecSep_0			999.13 mL	1.0 g	495676	01/19/21 11:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:21	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Client Sample ID: W-11
Lab Sample ID: 280-144589-14
Date Collected: 01/13/21 13:55
Matrix: Ground Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.21 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:22	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.74 mL	1.0 g	497771	02/04/21 11:51	KMP	TAL SL
Total/NA	Analysis	9320		1			498397	02/10/21 09:39	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Client Sample ID: W-12
Lab Sample ID: 280-144589-15
Date Collected: 01/13/21 15:30
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.92 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:22	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.14 mL	1.0 g	497771	02/04/21 11:51	KMP	TAL SL
Total/NA	Analysis	9320		1			498397	02/10/21 09:39	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Client Sample ID: W-9
Lab Sample ID: 280-144589-16
Date Collected: 01/13/21 14:00
Matrix: Water
Date Received: 01/14/21 08:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.28 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:22	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.28 mL	1.0 g	495676	01/19/21 11:04	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:21	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-10B
Date Collected: 01/13/21 13:10
Date Received: 01/14/21 08:30

Lab Sample ID: 280-144589-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.22 mL	1.0 g	495673	01/19/21 10:37	KMP	TAL SL
Total/NA	Analysis	9315		1			498384	02/10/21 12:22	ANW	TAL SL
Total/NA	Prep	PrecSep_0			500.43 mL	1.0 g	497771	02/04/21 11:51	KMP	TAL SL
Total/NA	Analysis	9320		1			498397	02/10/21 09:39	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498580	02/11/21 19:47	SCB	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	12-31-20 *
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: Hailey H. Tatum	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No: 1
Client Contact: Molly Reeves	Phone: 720 273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 1 of 2
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:	Analysis Requested		Preservation Codes:
City: Englewood	TAT Requested (days):			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, 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, Z - other (specify)
State, Zip: CO, 80112				Other:
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appliti+IV, 7470A Hg	Dissolved 6010C Boron, 6020A Appliti+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of Containers
~~W-1~~				~~Water~~								
W-2A	01/13/21	1020	G	Water	N	2	1	1	1	1	2	
~~W-2B~~	01/12/21	1145	G	~~Water~~	N	2	1	1	1	1	2	
W-3	01/13/21	1600	G	Water	N	2	1	2	1	1	2	
~~W-4~~ W-3D	01/13/21	1610	G	Water	N	2	1	2	1	1	2	
W-5	01/12/21	1423	G	Water	N	N	1	1	1	1	2	
W-6	01/12/21	1425	G	Water	N	N	1	1	1	1	2	
~~W-7~~				~~Water~~								
~~W-8A~~				~~Water~~								
~~W-8B~~				~~Water~~								
MW-1B	01/12/21	1625	G	Water	N	N	1	1	1	1	2	

280-144589 Chain of Custody

Special Instructions/Note:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

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:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	Hailey Tatum	01/14/2021 @ 8:30	HDR		1/14/21 0830	TA Denver
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 10x7999 | 1522545 | 1522543 | 1522546 | 1522541

Cooler Temperature(s) °C and Other Remarks: 1.3°C, 2.5°C, 4.6°C, 2.1°C; #9; +.3°C IR

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: E.Munoz + H. Tatum	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: (720)273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 2 of 2
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

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	Z - other (specify)

Other:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+iV, 7470A Hg	~~Dissolved 6010C Boron, 6020A Appiii+iV, 7470A Hg~~	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	D	N	N	D		
MW-2B	01/13/21	1130	G	Water	N	N	1	1		1	1	2	6	
MW-3	01/12/21	0920	G	Water	N	N	1	1		1	1	2	6	
MW-4B	01/13/21	0940	G	Water	N	N	1	1		1	1	2	6	
MW-5	01/12/21	1115	G	Water	N	N	1	1		1	1	2	6	
MW-6	01/12/21	1420	G	Water	N	N	1	1		1	1	2	6	
~~MW-60 DUP~~	01/12/21	1425	G	Water	N	N	1	1		1	1	2	6	
~~MW-60B-EB~~	01/12/21	1515	G	Water	N	N	1	1		1	1	2	6	
W-11	01/13/21	1355	G	Water	N	N	1	1		1	1	2	6	
W-12	01/13/21	1530	G	Water	N	N	1	1		1	1	2	6	
W-9	01/13/21	1400	G	Water	N	N	1	1		1	1	2	6	
W-10B	01/13/21	1310	G	Water	N	N	1	1		1	1	2	6	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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: Hailey Tatum	Date/Time: 01/14/2021 @ 8:30	Company HDR	Received by:	Date/Time: 1/14/21 0830	Company TA Denver	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554543.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144589-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/12/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-2A (280-144589-1)	1/13/21	10:20 Mountain		Water			X	X	X	2	
W-3 (280-144589-2)	1/13/21	16:00 Mountain		Water			X	X	X	2	
W-3D (280-144589-3)	1/13/21	16:10 Mountain		Water			X	X	X	2	
W-5 (280-144589-4)	1/12/21	14:28 Mountain		Water			X	X	X	2	
W-6 (280-144589-5)	1/12/21	12:15 Mountain		Water			X	X	X	2	
MW-1B (280-144589-6)	1/12/21	16:25 Mountain		Water			X	X	X	2	
MW-2B (280-144589-7)	1/13/21	11:30 Mountain		Water			X	X	X	2	
MW-3 (280-144589-8)	1/12/21	09:20 Mountain		Water			X	X	X	2	
MW-4B (280-144589-9)	1/13/21	09:40 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
	1/15/21 1155		FedEx		
Relinquished by: FedEx	Date/Time:	Company	Received by:	Date/Time: 1/16/21 09:02	Company ETASTL
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:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554543.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144589-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/12/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-5 (280-144589-10)	1/12/21	11:15 Mountain		Water			X	X	X	2	
MW-6 (280-144589-11)	1/12/21	14:20 Mountain		Water			X	X	X	2	
MW-6D (280-144589-12)	1/12/21	14:25 Mountain		Water			X	X	X	2	
MW-6FB (280-144589-13)	1/12/21	15:15 Mountain		Water			X	X	X	2	
W-11 (280-144589-14)	1/13/21	13:55 Mountain		Water			X	X	X	2	
W-12 (280-144589-15)	1/13/21	15:30 Mountain		Water			X	X	X	2	
W-9 (280-144589-16)	1/13/21	14:00 Mountain		Water			X	X	X	2	
W-10B (280-144589-17)	1/13/21	13:10 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	1/15/21 1155		FedEx		
2	FedEx			[signature]	1/16/21 09:02	ETASTL
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144589-2

Login Number: 144589
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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.	N/A	
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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144589-2

Login Number: 144589
List Number: 2
Creator: Boyd, Jacob C

List Source: Eurofins TestAmerica, St. Louis
List Creation: 01/16/21 10:23 AM

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.	N/A	
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	Samples 6, 7, 8, 10, 14, 15,&17 rec'd with pH between 4-7 SU. Preserved w/Nitric
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-144589-1	W-2A	81.3
280-144589-2	W-3	78.3
280-144589-3	W-3D	85.6
280-144589-4	W-5	85.6
280-144589-5	W-6	92.7
280-144589-6	MW-1B	83.2
280-144589-7	MW-2B	86.9
280-144589-8	MW-3	80.7
280-144589-9	MW-4B	90.5
280-144589-14	W-11	81.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-144589-10	MW-5	83.2
280-144589-11	MW-6	86.2
280-144589-12	MW-6D	89.9
280-144589-13	MW-6FB	82.3
280-144589-15	W-12	75.8
280-144589-16	W-9	83.8
280-144589-17	W-10B	66.1
LCS 160-495673/1-A	Lab Control Sample	80.4
LCS 160-495695/1-A	Lab Control Sample	87.2
LCSD 160-495673/2-A	Lab Control Sample Dup	73.4
LCSD 160-495695/2-A	Lab Control Sample Dup	83.8
MB 160-495673/11-A	Method Blank	84.4
MB 160-495695/23-A	Method Blank	86.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-144589-1	W-2A	81.3	81.9
280-144589-2	W-3	78.3	82.6
280-144589-3	W-3D	85.6	86.0
280-144589-4	W-5	85.6	85.2
280-144589-5	W-6	92.7	87.5
280-144589-6	MW-1B	83.2	86.7
280-144589-7	MW-2B	86.9	85.2
280-144589-8	MW-3	80.7	84.1

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-144589-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9320 - Radium-228 (GFPC) (Continued)

Matrix: Ground Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-144589-9	MW-4B	90.5	86.4
280-144589-14	W-11	77.5	86.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-144589-10	MW-5	83.2	87.5
280-144589-11	MW-6	86.2	72.9
280-144589-12	MW-6D	83.5	86.0
280-144589-13	MW-6FB	82.3	76.6
280-144589-15	W-12	80.2	87.5
280-144589-16	W-9	83.8	80.4
280-144589-17	W-10B	66.7	87.9
LCS 160-495676/1-A	Lab Control Sample	80.4	74.0
LCS 160-495701/1-A	Lab Control Sample	87.2	74.0
LCS 160-497771/1-A	Lab Control Sample	77.5	88.2
LCSD 160-495676/2-A	Lab Control Sample Dup	73.4	75.1
LCSD 160-495701/2-A	Lab Control Sample Dup	83.8	79.3
LCSD 160-497771/2-A	Lab Control Sample Dup	82.3	86.0
MB 160-495676/11-A	Method Blank	84.4	79.6
MB 160-495701/23-A	Method Blank	86.5	89.3
MB 160-497771/14-A	Method Blank	72.4	84.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-144655-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Stephanie Rothmeyer

Authorized for release by:
2/14/2021 10:06:23 AM
Stephanie Rothmeyer, Project Manager I
(303)736-0182
stephanie.rothmeyer@eurofinset.com

Designee for

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^3+	Reporting Limit Check Standard is outside acceptance limits, high biased
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-144655-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-144655-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This report may include data with reporting limits (RLs) less than TestAmerica's standard reporting limit. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require.

RECEIPT

The samples were received on 1/15/2021 at 9:48 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.6º C.

W-4 (280-144655-4) 1L container had only 150ml.

The following samples were received with insufficient preservation: W-2B (280-144655-2), W-7 (280-144655-6). 6 mL of HNO3 preservative was added by the laboratory, and the samples pH was adjusted to pH<2 SU.

TOTAL RECOVERABLE METALS

Samples W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 01/20/2021 and analyzed on 01/22/2021.

The following samples were diluted due to limited volume: W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5), W-7 (280-144655-6). 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.

TOTAL RECOVERABLE METALS (ICPMS)

Samples W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020A. The samples were prepared on 01/20/2021 and analyzed on 01/21/2021.

The following samples were diluted due to limited volume: W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5), W-7 (280-144655-6). Elevated reporting limits (RLs) are provided.

Calcium failed the recovery criteria low for the MS of sample 180-116051-2 in batch 240-470172. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

Job ID: 280-144655-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

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

TOTAL MERCURY
Samples W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 01/20/2021 and analyzed on 01/21/2021.

The following samples were diluted due to limited volume: W-1 (280-144655-1), W-2B (280-144655-3), W-4 (280-144655-4), W-5B (280-144655-5), W-7 (280-144655-6). 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.

TOTAL DISSOLVED SOLIDS
Samples W-1 (280-144655-1), W-2B (280-144655-2), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 01/19/2021.

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

TOTAL SUSPENDED SOLIDS
Samples W-1 (280-144655-1), W-2B (280-144655-2), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 01/19/2021.

Total Suspended Solids exceeded the RPD limit for the duplicate of sample 280-144685-1. Sample non-homogeneity is suspected.

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

CORROSIVITY (PH)
Samples W-1 (280-144655-1), W-2B (280-144655-2), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 01/19/2021.

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

ANIONS (28 DAYS)
Samples W-1 (280-144655-1), W-2B (280-144655-2), W-4 (280-144655-4), W-5B (280-144655-5) and W-7 (280-144655-6) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 01/30/2021, 02/10/2021 and 02/11/2021.

Sulfate failed the recovery criteria high for MRL 280-525878/3. Refer to the QC report for details.

Chloride failed the recovery criteria high for the MSD of sample 280-144417-7 in batch 280-524918. Fluoride exceeded the RPD limit. Refer to the QC report for details.

Samples W-1 (280-144655-1)[10X], W-1 (280-144655-1)[500X], W-2B (280-144655-2)[10X], W-2B (280-144655-2)[500X], W-4 (280-144655-4)[10X], W-4 (280-144655-4)[200X], W-5B (280-144655-5)[50X], W-7 (280-144655-6)[10X] and W-7 (280-144655-6)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The results reported for the following samples do not concur with results previously reported for this site: W-2B (280-144655-2). Reanalysis was performed, and the results confirmed.

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

Detection Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1 — Lab Sample ID: 280-144655-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.1		1.0	0.23	mg/L	1		6010C	Total Recoverable
Calcium	420		10	5.8	mg/L	1		6020A	Total Recoverable
Molybdenum	0.021	J	0.10	0.011	mg/L	1		6020A	Total Recoverable
Selenium	0.82		0.050	0.0089	mg/L	1		6020A	Total Recoverable
Lithium	2.1		0.080	0.017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	760		30	10	mg/L	10		9056A	Total/NA
Fluoride	3.1	J	5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	29000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	42000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	27		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2B — Lab Sample ID: 280-144655-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	940		30	10	mg/L	10		9056A	Total/NA
Sulfate	80000	H	2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	92000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	450		20	5.5	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2B — Lab Sample ID: 280-144655-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.4		1.0	0.23	mg/L	1		6010C	Total Recoverable
Antimony	0.013	J	0.020	0.0057	mg/L	1		6020A	Total Recoverable
Arsenic	0.020	J	0.050	0.0075	mg/L	1		6020A	Total Recoverable
Barium	0.070		0.050	0.022	mg/L	1		6020A	Total Recoverable
Calcium	510		10	5.8	mg/L	1		6020A	Total Recoverable
Cadmium	0.0024	J	0.010	0.0020	mg/L	1		6020A	Total Recoverable
Cobalt	0.054		0.010	0.0019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.042	J	0.10	0.011	mg/L	1		6020A	Total Recoverable
Lead	0.010		0.010	0.0045	mg/L	1		6020A	Total Recoverable
Selenium	0.86		0.050	0.0089	mg/L	1		6020A	Total Recoverable
Lithium	5.4		0.080	0.017	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-4 — Lab Sample ID: 280-144655-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.4		1.0	0.23	mg/L	1		6010C	Total Recoverable
Barium	0.054		0.050	0.022	mg/L	1		6020A	Total Recoverable
Calcium	420		10	5.8	mg/L	1		6020A	Total Recoverable
Cobalt	0.016		0.010	0.0019	mg/L	1		6020A	Total Recoverable
Chromium	0.039		0.020	0.0098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.12		0.10	0.011	mg/L	1		6020A	Total Recoverable
Lithium	1.5		0.080	0.017	mg/L	1		6020A	Total Recoverable
Chloride	480		30	10	mg/L	10		9056A	Total/NA
Fluoride	4.4	J	5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	29000		1000	210	mg/L	200		9056A	Total/NA

Client Sample ID: W-5B — Lab Sample ID: 280-144655-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		1.0	0.23	mg/L	1		6010C	Total Recoverable
Calcium	480		10	5.8	mg/L	1		6020A	Total Recoverable
Cobalt	0.0040	J	0.010	0.0019	mg/L	1		6020A	Total Recoverable
Lithium	0.29		0.080	0.017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	110		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.19	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3600		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	5300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.4	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-7 — Lab Sample ID: 280-144655-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		1.0	0.23	mg/L	1		6010C	Total Recoverable
Arsenic	0.010	J	0.050	0.0075	mg/L	1		6020A	Total Recoverable
Calcium	440		10	5.8	mg/L	1		6020A	Total Recoverable
Cadmium	0.0066	J	0.010	0.0020	mg/L	1		6020A	Total Recoverable
Cobalt	0.018		0.010	0.0019	mg/L	1		6020A	Total Recoverable
Selenium	1.5		0.050	0.0089	mg/L	1		6020A	Total Recoverable
Thallium	0.0042	J	0.010	0.0020	mg/L	1		6020A	Total Recoverable
Lithium	4.3		0.080	0.017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	6.8	HF	0.1	0.1	SU	1		9040B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Client Sample ID: W-7 (Continued)
Lab Sample ID: 280-144655-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	18.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	770		30	10	mg/L	10		9056A	Total/NA
Sulfate	48000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	69000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	72		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-144655-1	W-1	Water	01/14/21 13:05	01/15/21 09:48	
280-144655-2	W-2B	Water	01/13/21 11:45	01/15/21 09:48	
280-144655-3	W-2B	Water	01/14/21 13:45	01/15/21 09:48	
280-144655-4	W-4	Water	01/14/21 13:25	01/15/21 09:48	
280-144655-5	W-5B	Water	01/14/21 12:25	01/15/21 09:48	
280-144655-6	W-7	Water	01/14/21 10:45	01/15/21 09:48	

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.1**		1.0	0.23	mg/L		01/20/21 14:00	01/22/21 00:58	1

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.4**		1.0	0.23	mg/L		01/20/21 14:00	01/22/21 01:02	1

Client Sample ID: W-4
Date Collected: 01/14/21 13:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.4**		1.0	0.23	mg/L		01/20/21 14:00	01/22/21 01:15	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.0**		1.0	0.23	mg/L		01/20/21 14:00	01/22/21 01:19	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.2**		1.0	0.23	mg/L		01/20/21 14:00	01/22/21 01:24	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		01/20/21 14:00	01/21/21 16:05	1
Arsenic	ND		0.050	0.0075	mg/L		01/20/21 14:00	01/21/21 16:05	1
Barium	ND		0.050	0.022	mg/L		01/20/21 14:00	01/21/21 16:05	1
Beryllium	ND		0.010	0.0031	mg/L		01/20/21 14:00	01/21/21 16:05	1
Calcium	**420**		10	5.8	mg/L		01/20/21 14:00	01/21/21 16:05	1
Cadmium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:05	1
Cobalt	ND		0.010	0.0019	mg/L		01/20/21 14:00	01/21/21 16:05	1
Chromium	ND		0.020	0.0098	mg/L		01/20/21 14:00	01/21/21 16:05	1
Molybdenum	**0.021**	**J**	0.10	0.011	mg/L		01/20/21 14:00	01/21/21 16:05	1
Lead	ND		0.010	0.0045	mg/L		01/20/21 14:00	01/21/21 16:05	1
Selenium	**0.82**		0.050	0.0089	mg/L		01/20/21 14:00	01/21/21 16:05	1
Thallium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:05	1
Lithium	**2.1**		0.080	0.017	mg/L		01/20/21 14:00	01/21/21 16:05	1

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.013**	**J**	0.020	0.0057	mg/L		01/20/21 14:00	01/21/21 16:07	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.020**	**J**	0.050	0.0075	mg/L		01/20/21 14:00	01/21/21 16:07	1
Barium	**0.070**		0.050	0.022	mg/L		01/20/21 14:00	01/21/21 16:07	1
Beryllium	ND		0.010	0.0031	mg/L		01/20/21 14:00	01/21/21 16:07	1
Calcium	**510**		10	5.8	mg/L		01/20/21 14:00	01/21/21 16:07	1
Cadmium	**0.0024**	**J**	0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:07	1
Cobalt	**0.054**		0.010	0.0019	mg/L		01/20/21 14:00	01/21/21 16:07	1
Chromium	ND		0.020	0.0098	mg/L		01/20/21 14:00	01/21/21 16:07	1
Molybdenum	**0.042**	**J**	0.10	0.011	mg/L		01/20/21 14:00	01/21/21 16:07	1
Lead	**0.010**		0.010	0.0045	mg/L		01/20/21 14:00	01/21/21 16:07	1
Selenium	**0.86**		0.050	0.0089	mg/L		01/20/21 14:00	01/21/21 16:07	1
Thallium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:07	1
Lithium	**5.4**		0.080	0.017	mg/L		01/20/21 14:00	01/21/21 16:07	1

Client Sample ID: W-4
Date Collected: 01/14/21 13:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		01/20/21 14:00	01/21/21 16:10	1
Arsenic	ND		0.050	0.0075	mg/L		01/20/21 14:00	01/21/21 16:10	1
Barium	**0.054**		0.050	0.022	mg/L		01/20/21 14:00	01/21/21 16:10	1
Beryllium	ND		0.010	0.0031	mg/L		01/20/21 14:00	01/21/21 16:10	1
Calcium	**420**		10	5.8	mg/L		01/20/21 14:00	01/21/21 16:10	1
Cadmium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:10	1
Cobalt	**0.016**		0.010	0.0019	mg/L		01/20/21 14:00	01/21/21 16:10	1
Chromium	**0.039**		0.020	0.0098	mg/L		01/20/21 14:00	01/21/21 16:10	1
Molybdenum	**0.12**		0.10	0.011	mg/L		01/20/21 14:00	01/21/21 16:10	1
Lead	ND		0.010	0.0045	mg/L		01/20/21 14:00	01/21/21 16:10	1
Selenium	ND		0.050	0.0089	mg/L		01/20/21 14:00	01/21/21 16:10	1
Thallium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:10	1
Lithium	**1.5**		0.080	0.017	mg/L		01/20/21 14:00	01/21/21 16:10	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		01/20/21 14:00	01/21/21 16:12	1
Arsenic	ND		0.050	0.0075	mg/L		01/20/21 14:00	01/21/21 16:12	1
Barium	ND		0.050	0.022	mg/L		01/20/21 14:00	01/21/21 16:12	1
Beryllium	ND		0.010	0.0031	mg/L		01/20/21 14:00	01/21/21 16:12	1
Calcium	**480**		10	5.8	mg/L		01/20/21 14:00	01/21/21 16:12	1
Cadmium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:12	1
Cobalt	**0.0040**	**J**	0.010	0.0019	mg/L		01/20/21 14:00	01/21/21 16:12	1
Chromium	ND		0.020	0.0098	mg/L		01/20/21 14:00	01/21/21 16:12	1
Molybdenum	ND		0.10	0.011	mg/L		01/20/21 14:00	01/21/21 16:12	1
Lead	ND		0.010	0.0045	mg/L		01/20/21 14:00	01/21/21 16:12	1
Selenium	ND		0.050	0.0089	mg/L		01/20/21 14:00	01/21/21 16:12	1
Thallium	ND		0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:12	1
Lithium	**0.29**		0.080	0.017	mg/L		01/20/21 14:00	01/21/21 16:12	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		01/20/21 14:00	01/21/21 16:15	1
Arsenic	**0.010**	**J**	0.050	0.0075	mg/L		01/20/21 14:00	01/21/21 16:15	1
Barium	ND		0.050	0.022	mg/L		01/20/21 14:00	01/21/21 16:15	1
Beryllium	ND		0.010	0.0031	mg/L		01/20/21 14:00	01/21/21 16:15	1
Calcium	**440**		10	5.8	mg/L		01/20/21 14:00	01/21/21 16:15	1
Cadmium	**0.0066**	**J**	0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:15	1
Cobalt	**0.018**		0.010	0.0019	mg/L		01/20/21 14:00	01/21/21 16:15	1
Chromium	ND		0.020	0.0098	mg/L		01/20/21 14:00	01/21/21 16:15	1
Molybdenum	ND		0.10	0.011	mg/L		01/20/21 14:00	01/21/21 16:15	1
Lead	ND		0.010	0.0045	mg/L		01/20/21 14:00	01/21/21 16:15	1
Selenium	**1.5**		0.050	0.0089	mg/L		01/20/21 14:00	01/21/21 16:15	1
Thallium	**0.0042**	**J**	0.010	0.0020	mg/L		01/20/21 14:00	01/21/21 16:15	1
Lithium	**4.3**		0.080	0.017	mg/L		01/20/21 14:00	01/21/21 16:15	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0013	mg/L		01/20/21 12:00	01/21/21 13:13	1

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0013	mg/L		01/20/21 12:00	01/21/21 13:15	1

Client Sample ID: W-4
Date Collected: 01/14/21 13:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0013	mg/L		01/20/21 12:00	01/21/21 13:17	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0013	mg/L		01/20/21 12:00	01/21/21 13:19	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0013	mg/L		01/20/21 12:00	01/21/21 13:21	1

General Chemistry

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			01/19/21 19:46	1
Temperature	19.1	HF	1.0	1.0	Degrees C			01/19/21 19:46	1
Chloride	760		30	10	mg/L			01/30/21 18:19	10
Fluoride	3.1	J	5.0	1.7	mg/L			01/30/21 18:19	10
Sulfate	29000		2500	520	mg/L			02/10/21 02:33	500
Total Dissolved Solids (TDS)	42000		1000	470	mg/L			01/19/21 12:07	1
Total Suspended Solids	27		4.0	1.1	mg/L			01/19/21 11:07	1

Client Sample ID: W-2B
Date Collected: 01/13/21 11:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			01/19/21 20:07	1
Temperature	21.2	HF	1.0	1.0	Degrees C			01/19/21 20:07	1
Chloride	940		30	10	mg/L			01/30/21 19:41	10
Fluoride	ND		0.50	0.17	mg/L			01/30/21 19:25	1
Sulfate	80000	H	2500	520	mg/L			02/11/21 09:18	500
Total Dissolved Solids (TDS)	92000		1000	470	mg/L			01/19/21 12:07	1
Total Suspended Solids	450		20	5.5	mg/L			01/19/21 11:07	1

Client Sample ID: W-4
Date Collected: 01/14/21 13:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	480		30	10	mg/L			01/30/21 20:31	10
Fluoride	4.4	J	5.0	1.7	mg/L			02/11/21 09:50	10
Sulfate	29000		1000	210	mg/L			02/10/21 03:39	200

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			01/19/21 19:50	1
Temperature	19.1	HF	1.0	1.0	Degrees C			01/19/21 19:50	1
Chloride	110		3.0	1.0	mg/L			01/30/21 21:04	1
Fluoride	0.19	J	0.50	0.17	mg/L			01/30/21 21:04	1
Sulfate	3600		250	52	mg/L			02/10/21 03:55	50
Total Dissolved Solids (TDS)	5300		40	19	mg/L			01/19/21 12:07	1
Total Suspended Solids	2.4	J	4.0	1.1	mg/L			01/19/21 11:07	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.8	HF	0.1	0.1	SU			01/19/21 19:53	1
Temperature	18.7	HF	1.0	1.0	Degrees C			01/19/21 19:53	1
Chloride	770		30	10	mg/L			01/30/21 21:53	10
Fluoride	ND		0.50	0.17	mg/L			01/30/21 21:36	1
Sulfate	48000		2500	520	mg/L			02/11/21 10:39	500
Total Dissolved Solids (TDS)	69000		1000	470	mg/L			01/19/21 12:07	1

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry (Continued)

Client Sample ID: W-7
Lab Sample ID: 280-144655-6
Date Collected: 01/14/21 10:45
Matrix: Water
Date Received: 01/15/21 09:48

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	72		4.0	1.1	mg/L			01/19/21 11:07	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-469838/1-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469838

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		01/20/21 14:00	01/22/21 00:27	1

Lab Sample ID: LCS 240-469838/2-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-469838/1-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469838

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 15:11	1
Arsenic	ND		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 15:11	1
Barium	ND		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 15:11	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 15:11	1
Calcium	ND		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 15:11	1
Cadmium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 15:11	1
Cobalt	ND		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 15:11	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 15:11	1
Molybdenum	ND		0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 15:11	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 15:11	1
Selenium	ND		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 15:11	1
Thallium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 15:11	1
Lithium	ND		0.0080	0.0017	mg/L		01/20/21 14:00	01/21/21 15:11	1

Lab Sample ID: LCS 240-469838/3-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469838

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.100		mg/L		100	80 - 120
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	1.00		mg/L		100	80 - 120
Beryllium	0.500	0.488		mg/L		98	80 - 120
Calcium	25.0	25.2		mg/L		101	80 - 120
Cadmium	0.500	0.500		mg/L		100	80 - 120
Cobalt	0.500	0.515		mg/L		103	80 - 120
Chromium	0.500	0.508		mg/L		102	80 - 120
Molybdenum	0.500	0.506		mg/L		101	80 - 120
Lead	0.500	0.518		mg/L		104	80 - 120
Selenium	1.00	0.959		mg/L		96	80 - 120
Thallium	1.00	1.00		mg/L		100	80 - 120
Lithium	0.500	0.528		mg/L		106	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-469839/1-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 469839

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 12:27	1

Lab Sample ID: LCS 240-469839/2-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 469839

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00468		mg/L		94	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-524135/4
Matrix: Water
Analysis Batch: 524135

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		101	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-524918/57
Matrix: Water
Analysis Batch: 524918

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			01/30/21 16:41	1
Fluoride	ND		0.50	0.17	mg/L			01/30/21 16:41	1

Lab Sample ID: LCS 280-524918/55
Matrix: Water
Analysis Batch: 524918

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	104		mg/L		104	90 - 110
Fluoride	5.00	5.17		mg/L		103	90 - 110
Sulfate	100	108		mg/L		108	90 - 110

Lab Sample ID: LCSD 280-524918/56
Matrix: Water
Analysis Batch: 524918

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	100	104		mg/L		104	90 - 110	0	10
Fluoride	5.00	5.16		mg/L		103	90 - 110	0	10

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-524918/3
Matrix: Water
Analysis Batch: 524918

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.55		mg/L		111	50 - 150
Fluoride	0.500	0.489	J	mg/L		98	50 - 150
Sulfate	5.00	5.36		mg/L		107	50 - 150

Lab Sample ID: MB 280-525878/6
Matrix: Water
Analysis Batch: 525878

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			02/09/21 20:32	1
Fluoride	ND		0.50	0.17	mg/L			02/09/21 20:32	1
Sulfate	ND		5.0	1.0	mg/L			02/09/21 20:32	1

Lab Sample ID: LCS 280-525878/4
Matrix: Water
Analysis Batch: 525878

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	105		mg/L		105	90 - 110
Fluoride	5.00	5.21		mg/L		104	90 - 110
Sulfate	100	103		mg/L		103	90 - 110

Lab Sample ID: LCSD 280-525878/5
Matrix: Water
Analysis Batch: 525878

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	100	105		mg/L		105	90 - 110	0	10
Fluoride	5.00	5.22		mg/L		104	90 - 110	0	10
Sulfate	100	103		mg/L		103	90 - 110	0	10

Lab Sample ID: MRL 280-525878/3
Matrix: Water
Analysis Batch: 525878

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.45		mg/L		109	50 - 150
Fluoride	0.500	0.576		mg/L		115	50 - 150
Sulfate	5.00	7.65	^3+	mg/L		153	50 - 150

Lab Sample ID: MB 280-525944/6
Matrix: Water
Analysis Batch: 525944

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			02/10/21 12:02	1
Sulfate	ND		5.0	1.0	mg/L			02/10/21 12:02	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-525944/83
Matrix: Water
Analysis Batch: 525944

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			02/10/21 23:48	1
Sulfate	ND		5.0	1.0	mg/L			02/10/21 23:48	1

Lab Sample ID: LCS 280-525944/4
Matrix: Water
Analysis Batch: 525944

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	5.02		mg/L		100	90 - 110
Sulfate	100	98.2		mg/L		98	90 - 110

Lab Sample ID: LCS 280-525944/81
Matrix: Water
Analysis Batch: 525944

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	5.07		mg/L		101	90 - 110
Sulfate	100	99.5		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-525944/5
Matrix: Water
Analysis Batch: 525944

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	5.00	5.02		mg/L		100	90 - 110	0	10
Sulfate	100	98.5		mg/L		98	90 - 110	0	10

Lab Sample ID: LCSD 280-525944/82
Matrix: Water
Analysis Batch: 525944

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	5.00	5.12		mg/L		102	90 - 110	1	10
Sulfate	100	100		mg/L		100	90 - 110	1	10

Lab Sample ID: MRL 280-525944/3
Matrix: Water
Analysis Batch: 525944

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.500	0.538		mg/L		108	50 - 150
Sulfate	5.00	5.44		mg/L		109	50 - 150

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

Lab Sample ID: MB 280-523981/1
Matrix: Water
Analysis Batch: 523981

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			01/19/21 12:07	1

Lab Sample ID: LCS 280-523981/2
Matrix: Water
Analysis Batch: 523981

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 (TDS)	501	488		mg/L		98	88 - 114

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-523969/1
Matrix: Water
Analysis Batch: 523969

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			01/19/21 11:07	1

Lab Sample ID: LCS 280-523969/2
Matrix: Water
Analysis Batch: 523969

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	80.0		mg/L		80	79 - 114

Lab Sample ID: LCSD 280-523969/20
Matrix: Water
Analysis Batch: 523969

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 Suspended Solids	100	95.6		mg/L		96	79 - 114	18	20

Metals

Prep Batch: 469838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total Recoverable	Water	3005A	
280-144655-3	W-2B	Total Recoverable	Water	3005A	
280-144655-4	W-4	Total Recoverable	Water	3005A	
280-144655-5	W-5B	Total Recoverable	Water	3005A	
280-144655-6	W-7	Total Recoverable	Water	3005A	
MB 240-469838/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-469838/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-469838/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 469839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	7470A	
280-144655-3	W-2B	Total/NA	Water	7470A	
280-144655-4	W-4	Total/NA	Water	7470A	
280-144655-5	W-5B	Total/NA	Water	7470A	
280-144655-6	W-7	Total/NA	Water	7470A	
MB 240-469839/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-469839/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 470021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total Recoverable	Water	6010C	469838
280-144655-3	W-2B	Total Recoverable	Water	6010C	469838
280-144655-4	W-4	Total Recoverable	Water	6010C	469838
280-144655-5	W-5B	Total Recoverable	Water	6010C	469838
280-144655-6	W-7	Total Recoverable	Water	6010C	469838
MB 240-469838/1-A	Method Blank	Total Recoverable	Water	6010C	469838
LCS 240-469838/2-A	Lab Control Sample	Total Recoverable	Water	6010C	469838

Analysis Batch: 470038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	7470A	469839
280-144655-3	W-2B	Total/NA	Water	7470A	469839
280-144655-4	W-4	Total/NA	Water	7470A	469839
280-144655-5	W-5B	Total/NA	Water	7470A	469839
280-144655-6	W-7	Total/NA	Water	7470A	469839
MB 240-469839/1-A	Method Blank	Total/NA	Water	7470A	469839
LCS 240-469839/2-A	Lab Control Sample	Total/NA	Water	7470A	469839

Analysis Batch: 470172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total Recoverable	Water	6020A	469838
280-144655-3	W-2B	Total Recoverable	Water	6020A	469838
280-144655-4	W-4	Total Recoverable	Water	6020A	469838
280-144655-5	W-5B	Total Recoverable	Water	6020A	469838
280-144655-6	W-7	Total Recoverable	Water	6020A	469838
MB 240-469838/1-A	Method Blank	Total Recoverable	Water	6020A	469838
LCS 240-469838/3-A	Lab Control Sample	Total Recoverable	Water	6020A	469838

QC Association Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry

Analysis Batch: 523969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	SM 2540D	
280-144655-2	W-2B	Total/NA	Water	SM 2540D	
280-144655-5	W-5B	Total/NA	Water	SM 2540D	
280-144655-6	W-7	Total/NA	Water	SM 2540D	
MB 280-523969/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-523969/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-523969/20	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 523981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	SM 2540C	
280-144655-2	W-2B	Total/NA	Water	SM 2540C	
280-144655-5	W-5B	Total/NA	Water	SM 2540C	
280-144655-6	W-7	Total/NA	Water	SM 2540C	
MB 280-523981/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-523981/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 524135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	9040B	
280-144655-2	W-2B	Total/NA	Water	9040B	
280-144655-5	W-5B	Total/NA	Water	9040B	
280-144655-6	W-7	Total/NA	Water	9040B	
LCS 280-524135/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 524918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	9056A	
280-144655-2	W-2B	Total/NA	Water	9056A	
280-144655-2	W-2B	Total/NA	Water	9056A	
280-144655-4	W-4	Total/NA	Water	9056A	
280-144655-5	W-5B	Total/NA	Water	9056A	
280-144655-6	W-7	Total/NA	Water	9056A	
280-144655-6	W-7	Total/NA	Water	9056A	
MB 280-524918/57	Method Blank	Total/NA	Water	9056A	
LCS 280-524918/55	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-524918/56	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-524918/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 525878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	9056A	
280-144655-4	W-4	Total/NA	Water	9056A	
280-144655-5	W-5B	Total/NA	Water	9056A	
MB 280-525878/6	Method Blank	Total/NA	Water	9056A	
LCS 280-525878/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-525878/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-525878/3	Lab Control Sample	Total/NA	Water	9056A	

QC Association Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry

Analysis Batch: 525944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-2	W-2B	Total/NA	Water	9056A	
280-144655-4	W-4	Total/NA	Water	9056A	
280-144655-6	W-7	Total/NA	Water	9056A	
MB 280-525944/6	Method Blank	Total/NA	Water	9056A	
MB 280-525944/83	Method Blank	Total/NA	Water	9056A	
LCS 280-525944/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-525944/81	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-525944/5	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-525944/82	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-525944/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-144655-1
Date Collected: 01/14/21 13:05
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/22/21 00:58	WKD	TAL CAN
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 16:05	DSH	TAL CAN
Total/NA	Prep	7470A			5 mL	50 mL	469839	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 13:13	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 19:46	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524918	01/30/21 18:19	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525878	02/10/21 02:33	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523981	01/19/21 12:07	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523969	01/19/21 11:07	JMH	TAL DEN

Client Sample ID: W-2B
Lab Sample ID: 280-144655-2
Date Collected: 01/13/21 11:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1			524135	01/19/21 20:07	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524918	01/30/21 19:25	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524918	01/30/21 19:41	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525944	02/11/21 09:18	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523981	01/19/21 12:07	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	50 mL	250 mL	523969	01/19/21 11:07	JMH	TAL DEN

Client Sample ID: W-2B
Lab Sample ID: 280-144655-3
Date Collected: 01/14/21 13:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/22/21 01:02	WKD	TAL CAN
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 16:07	DSH	TAL CAN
Total/NA	Prep	7470A			5 mL	50 mL	469839	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 13:15	SLD	TAL CAN

Client Sample ID: W-4
Lab Sample ID: 280-144655-4
Date Collected: 01/14/21 13:25
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/22/21 01:15	WKD	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-4
Lab Sample ID: 280-144655-4
Date Collected: 01/14/21 13:25
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 16:10	DSH	TAL CAN
Total/NA	Prep	7470A			5 mL	50 mL	469839	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 13:17	SLD	TAL CAN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524918	01/30/21 20:31	JMB	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	525878	02/10/21 03:39	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	525944	02/11/21 09:50	JMB	TAL DEN

Client Sample ID: W-5B
Lab Sample ID: 280-144655-5
Date Collected: 01/14/21 12:25
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/22/21 01:19	WKD	TAL CAN
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 16:12	DSH	TAL CAN
Total/NA	Prep	7470A			5 mL	50 mL	469839	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 13:19	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 19:50	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524918	01/30/21 21:04	JMB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	525878	02/10/21 03:55	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	523981	01/19/21 12:07	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523969	01/19/21 11:07	JMH	TAL DEN

Client Sample ID: W-7
Lab Sample ID: 280-144655-6
Date Collected: 01/14/21 10:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			470021	01/22/21 01:24	WKD	TAL CAN
Total Recoverable	Prep	3005A			5 mL	50 mL	469838	01/20/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			470172	01/21/21 16:15	DSH	TAL CAN
Total/NA	Prep	7470A			5 mL	50 mL	469839	01/20/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			470038	01/21/21 13:21	SLD	TAL CAN
Total/NA	Analysis	9040B		1			524135	01/19/21 19:53	CJ	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	524918	01/30/21 21:36	JMB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	524918	01/30/21 21:53	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	525944	02/11/21 10:39	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	523981	01/19/21 12:07	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	523969	01/19/21 11:07	JMH	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-144655-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

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2/14/2021

Client Information	Sampler: Emily Munoz	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 720 273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	Dissolved 60100 Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra228, 9320_Ra228, Ra226R5Ra228 combined	Total Number of containers	Special Instructions/Note:
W-1	01/14/21	1305	G	Water	N	N	1	1	1	1	2	
~~W-2A~~ W-2B	01/13/21	1145	G	Water	N	N	1		X	1	2	Take Anions from excess IDW
W-2B	01/14/21	1345	G	Water	N	N		1				
~~W-3~~				~~Water~~								
W-4	01/14/21	1325	G	Water	N	N	X	X	X	X	X	150mL; Contact M. Reeves
W-5B	01/14/21	1225	G	Water	N	N	1	1	1	1	2	
~~W-6~~				~~Water~~								
W-7	01/14/21	1045	G	Water	N	N	1	1	1	1	2	
~~W-8A~~				~~Water~~								
~~W-8B~~				~~Water~~								
~~MW-1~~				~~Water~~								

280-144655 Chain of Custody

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	Z - other (specify)

Other:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: Contact for priority, Rx insuff. Volume

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by:	01/15/21 0948	HDR	Received by:	01/15/2021 0948	EHA-DEN
Relinquished by:	Date/Time:	Company	Received by:	1/15/21 0948	EHADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 152542, 152549

Cooler Temperature(s) °C and Other Remarks: 2.4, 1.9 IR#9 CF+0.2

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

15/16

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554717.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144655-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 2/5/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-1 (280-144655-1)	1/14/21	13:05 Mountain		Water			X	X	X	1	Use Collision Cell
W-2B (280-144655-3)	1/14/21	13:45 Mountain		Water			X	X	X	1	Use Collision Cell
W-4 (280-144655-4)	1/14/21	13:25 Mountain		Water			X	X	X	1	Use Collision Cell
W-5B (280-144655-5)	1/14/21	12:25 Mountain		Water			X	X	X	1	Use Collision Cell
W-7 (280-144655-6)	1/14/21	10:45 Mountain		Water			X	X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1/18/21 1355		[signature]	1-19-21 1000	EPA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Matt S

Cooler Received on 1-19-21 Opened on 1-19-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 4 Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.5 °C Corrected Cooler Temp. 1.6 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC907861
14. Were VOAs on the COC?	Yes	(No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	(No) NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144655-1

Login Number: 144655
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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	False	Refer to Job Narrative for details.
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	

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-144655-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
2/15/2021 3:44:08 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

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

Job ID: 280-144655-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-144655-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 01/15/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 2.1º C and 2.6º C.

Please note, limited sample volume was provided for sample W-2 for Radioactive analyses. The samples were performed at a reduce aliquot. One of the two liters for nitric acid only had 800mLs instead of 1000mLs.

The following samples were received with insufficient preservation: W-2B and W-7. The laboratory was adjusted the pH additional and proceed with analysis. 6 mL of HNO3 preservative was added by the laboratory, and the samples pH was adjusted to pH<2 SU.

RADIUM-226 (GFPC)
Insufficient sample volume was available to perform a sample duplicate for Method 9315. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

RADIUM-228
The following samples were prepared at a reduced aliquot due to yellow discoloration: W-1, W-5B, and W-7. The sample W-2B was prepared at a reduced aliquot due to brown discoloration and heavy sediment levels.

Method 9320: 9320 prep batch 495886
The Method Blank did not meet the requested limit (RL) due to the reduced sample volume. The reduced volume was used on the QC samples to match the reduced volume that was used on the client samples. Although the MDC > RL the method blank activity is below the RL. Original results will be reported.

Insufficient sample volume was available to perform a sample duplicate for Method 9320. A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 280-144655-2 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Detection Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1 — Lab Sample ID: 280-144655-1

No Detections.

Client Sample ID: W-2B — Lab Sample ID: 280-144655-2

No Detections.

Client Sample ID: W-5B — Lab Sample ID: 280-144655-5

No Detections.

Client Sample ID: W-7 — Lab Sample ID: 280-144655-6

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-144655-1	W-1	Water	01/14/21 13:05	01/15/21 09:48	
280-144655-2	W-2B	Water	01/13/21 11:45	01/15/21 09:48	
280-144655-5	W-5B	Water	01/14/21 12:25	01/15/21 09:48	
280-144655-6	W-7	Water	01/14/21 10:45	01/15/21 09:48	

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.604		0.166	0.175	1.00	0.131	pCi/L	01/20/21 18:08	02/11/21 06:41	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110	01/20/21 18:08	02/11/21 06:41	1

Client Sample ID: W-2B
Date Collected: 01/13/21 11:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.97		0.497	0.612	1.00	0.251	pCi/L	01/20/21 18:08	02/11/21 06:41	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	01/20/21 18:08	02/11/21 06:41	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.766		0.182	0.195	1.00	0.138	pCi/L	01/20/21 18:08	02/11/21 06:42	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		40 - 110	01/20/21 18:08	02/11/21 06:42	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.91		0.393	0.429	1.00	0.249	pCi/L	01/20/21 18:08	02/11/21 06:42	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	66.1		40 - 110	01/20/21 18:08	02/11/21 06:42	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.295	U	0.356	0.357	1.00	0.589	pCi/L	01/20/21 18:26	02/01/21 08:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	85.0		40 - 110	01/20/21 18:26	02/01/21 08:17	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Y Carrier	81.1		40 - 110	01/20/21 18:26	02/01/21 08:17	1

Client Sample ID: W-2B
Date Collected: 01/13/21 11:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.84		0.736	0.781	1.00	0.937	pCi/L	01/20/21 18:26	02/01/21 08:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	01/20/21 18:26	02/01/21 08:17	1
Y Carrier	82.6		40 - 110	01/20/21 18:26	02/01/21 08:17	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.985		0.367	0.378	1.00	0.498	pCi/L	01/20/21 18:26	02/01/21 08:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.0		40 - 110	01/20/21 18:26	02/01/21 08:17	1
Y Carrier	84.5		40 - 110	01/20/21 18:26	02/01/21 08:17	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.45	G	0.849	0.879	1.00	1.16	pCi/L	01/20/21 18:26	02/01/21 08:18	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	66.1		40 - 110	01/20/21 18:26	02/01/21 08:18	1
Y Carrier	81.5		40 - 110	01/20/21 18:26	02/01/21 08:18	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-1
Date Collected: 01/14/21 13:05
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.899		0.393	0.398	5.00	0.589	pCi/L		02/11/21 15:16	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-2B
Date Collected: 01/13/21 11:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	6.80		0.888	0.992	5.00	0.937	pCi/L		02/11/21 15:16	1

Client Sample ID: W-5B
Date Collected: 01/14/21 12:25
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.75		0.410	0.425	5.00	0.498	pCi/L		02/11/21 15:16	1

Client Sample ID: W-7
Date Collected: 01/14/21 10:45
Date Received: 01/15/21 09:48
Lab Sample ID: 280-144655-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.36		0.936	0.978	5.00	1.16	pCi/L		02/11/21 15:16	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-495883/10-A
Matrix: Water
Analysis Batch: 498554

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495883

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.003002	U	0.0595	0.0595	1.00	0.129	pCi/L	01/20/21 18:08	02/11/21 06:43	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.3*		*40 - 110*	*01/20/21 18:08*	*02/11/21 06:43*	*1*

Lab Sample ID: LCS 160-495883/1-A
Matrix: Water
Analysis Batch: 498554

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495883

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.39		1.41	1.00	0.137	pCi/L	89	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*82.0*		*40 - 110*

Lab Sample ID: LCSD 160-495883/2-A
Matrix: Water
Analysis Batch: 498554

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495883

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	14.87		1.55	1.00	0.144	pCi/L	98	75 - 125	0.50	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*82.3*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-495886/10-A
Matrix: Water
Analysis Batch: 497407

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495886

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3069	U G	5.46	5.46	1.00	9.70	pCi/L	01/20/21 18:26	02/02/21 08:11	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.3*		*40 - 110*	*01/20/21 18:26*	*02/02/21 08:11*	*1*
Y Carrier	*79.6*		*40 - 110*	*01/20/21 18:26*	*02/02/21 08:11*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-495886/1-A
Matrix: Water
Analysis Batch: 497250

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495886

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.95	12.03		1.47	1.00	0.636	pCi/L	121	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*82.0*		*40 - 110*
Y Carrier	*79.6*		*40 - 110*

Lab Sample ID: LCSD 160-495886/2-A
Matrix: Water
Analysis Batch: 497250

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 495886

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.95	10.77		1.36	1.00	0.677	pCi/L	108	75 - 125	0.45	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*82.3*		*40 - 110*
Y Carrier	*78.1*		*40 - 110*

QC Association Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 495883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	PrecSep-21	
280-144655-2	W-2B	Total/NA	Water	PrecSep-21	
280-144655-5	W-5B	Total/NA	Water	PrecSep-21	
280-144655-6	W-7	Total/NA	Water	PrecSep-21	
MB 160-495883/10-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-495883/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-495883/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 495886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144655-1	W-1	Total/NA	Water	PrecSep_0	
280-144655-2	W-2B	Total/NA	Water	PrecSep_0	
280-144655-5	W-5B	Total/NA	Water	PrecSep_0	
280-144655-6	W-7	Total/NA	Water	PrecSep_0	
MB 160-495886/10-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-495886/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-495886/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-144655-1
Date Collected: 01/14/21 13:05
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.03 mL	1.0 g	495883	01/20/21 18:08	KMP	TAL SL
Total/NA	Analysis	9315		1			498554	02/11/21 06:41	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.03 mL	1.0 g	495886	01/20/21 18:26	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:17	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498559	02/11/21 15:16	SCB	TAL SL

Client Sample ID: W-2B
Lab Sample ID: 280-144655-2
Date Collected: 01/13/21 11:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			499.68 mL	1.0 g	495883	01/20/21 18:08	KMP	TAL SL
Total/NA	Analysis	9315		1			498554	02/11/21 06:41	ANW	TAL SL
Total/NA	Prep	PrecSep_0			499.68 mL	1.0 g	495886	01/20/21 18:26	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:17	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498559	02/11/21 15:16	SCB	TAL SL

Client Sample ID: W-5B
Lab Sample ID: 280-144655-5
Date Collected: 01/14/21 12:25
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.70 mL	1.0 g	495883	01/20/21 18:08	KMP	TAL SL
Total/NA	Analysis	9315		1			498554	02/11/21 06:42	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.70 mL	1.0 g	495886	01/20/21 18:26	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:17	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498559	02/11/21 15:16	SCB	TAL SL

Client Sample ID: W-7
Lab Sample ID: 280-144655-6
Date Collected: 01/14/21 10:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.16 mL	1.0 g	495883	01/20/21 18:08	KMP	TAL SL
Total/NA	Analysis	9315		1			498554	02/11/21 06:42	ANW	TAL SL
Total/NA	Prep	PrecSep_0			500.16 mL	1.0 g	495886	01/20/21 18:26	KMP	TAL SL
Total/NA	Analysis	9320		1			497250	02/01/21 08:18	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			498559	02/11/21 15:16	SCB	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	12-31-20 *
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-21
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	02-28-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193-19-13	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

2/15/2021

Client Information	Sampler: Emily Munoz	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 720 273 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appli+IV, 7470A Hg	Dissolved 60100 Boron, 6020A Appli+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra228, 9320_Ra228, Ra226R5Ra228 combined	Total Number of containers	Special Instructions/Note:
W-1	01/14/21	1305	G	Water	N	N	1	1	1	1	2	
~~W-2A~~ W-2B	01/13/21	1145	G	Water	N	N	1		X	1	2	Take Anions from excess IDW
W-2B	01/14/21	1345	G	Water	N	N		1				
~~W-3~~				Water								
W-4	01/14/21	1325	G	Water	N	N	X	X	X	X	X	150mL; Contact M. Reeves
W-5B	01/14/21	1225	G	Water	N	N	1	1	1	1	2	
~~W-6~~				Water								
W-7	01/14/21	1045	G	Water	N	N	1	1	1	1	2	
~~W-8A~~				Water								
~~W-8B~~				Water								
~~MW-1~~				Water								

280-144655 Chain of Custody

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	Z - other (specify)

Other:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements: Contact for priority, Rx insuff. Volume

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

	Date/Time	Company	Received by	Date/Time	Company
Relinquished by:	01/15/21 0948	HDR			
Relinquished by:	Date/Time:	Company	Received by:	01/15/2021 0948	EEA-DEN
Relinquished by:	Date/Time:	Company	Received by:	1/15/21 0948	EEADEN
				Date/Time:	Company

Custody Seals Intact: ☒ Yes ☐ No | Custody Seal No.: 152542, 152549

Cooler Temperature(s) °C and Other Remarks: 2.4, 1.9 IR#9 CF+0.2

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554719.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144655-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 2/15/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-1 (280-144655-1)	1/14/21	13:05 Mountain		Water			X	X	X	2	
W-2B (280-144655-2)	1/13/21	11:45 Mountain		Water			X	X	X	2	
W-5B (280-144655-5)	1/14/21	12:25 Mountain		Water			X	X	X	2	
W-7 (280-144655-6)	1/14/21	10:45 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	FED EX	1/18/21 1325		FED EX		
2	Relinquished by:	Date/Time:	Company	Received by: Mallory Olson	Date/Time: 1/19/21 0850	Company ETA-STL
3	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:

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144655-2

Login Number: 144655
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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	False	Refer to Job Narrative for details.
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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144655-2

Login Number: 144655
List Number: 3
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 01/19/21 04:33 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.	N/A	
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	Samples 280-144655-A-2, -B-2, -A-6 and-B-6 received with pH=4. Emailed PM .
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-144655-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-144655-1	W-1	85.0
280-144655-2	W-2B	86.9
280-144655-5	W-5B	89.0
280-144655-6	W-7	66.1
LCS 160-495883/1-A	Lab Control Sample	82.0
LCSD 160-495883/2-A	Lab Control Sample Dup	82.3
MB 160-495883/10-A	Method Blank	81.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-144655-1	W-1	85.0	81.1
280-144655-2	W-2B	86.9	82.6
280-144655-5	W-5B	89.0	84.5
280-144655-6	W-7	66.1	81.5
LCS 160-495886/1-A	Lab Control Sample	82.0	79.6
LCSD 160-495886/2-A	Lab Control Sample Dup	82.3	78.1
MB 160-495886/10-A	Method Blank	81.3	79.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-144657-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway, Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
1/26/2021 6:43:00 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-144657-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-144657-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This report may include data with reporting limits (RLs) less than TestAmerica's standard reporting limit. These data and reporting limits are being used specifically to meet the needs of this project. Note that, data are not customarily reported to these levels without qualifiers, because they are inherently less reliable and potentially less defensible than the latest industry standards require.

RECEIPT

The samples were received on 1/15/2021 at 9:48 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.6º C.

Sample W-2B (280-144657-1) has 250ml in the 500ml container.

DISSOLVED METALS- Method 6010C/6020A

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

DISSOLVED MERCURY

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

Detection Summary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2B
Lab Sample ID: 280-144657-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.5		0.10	0.023	mg/L	1		6010C	Dissolved
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.031		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	130		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.0018		0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.052		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.050		0.010	0.0011	mg/L	1		6020A	Dissolved
Antimony	0.013		0.0020	0.00057	mg/L	1		6020A	Dissolved
Selenium	1.2		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	5.7		0.080	0.017	mg/L	10		6020A	Dissolved
Thallium	0.00064	J	0.0010	0.00020	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-144657-1	W-2B	Water	01/14/21 13:45	01/15/21 09:48	

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48

Lab Sample ID: 280-144657-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.5**		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 11:42	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48

Lab Sample ID: 280-144657-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 18:58	1
Barium	**0.031**		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 18:58	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 18:58	1
Calcium	**130**		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 18:58	1
Cadmium	**0.0018**		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:58	1
Cobalt	**0.052**		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 18:58	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 18:58	1
Molybdenum	**0.050**		0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 18:58	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 18:58	1
Antimony	**0.013**		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 18:58	1
Selenium	**1.2**		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 18:58	1
Lithium	**5.7**		0.080	0.017	mg/L		01/20/21 14:00	01/22/21 15:17	10
Thallium	**0.00064**	**J**	0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-2B
Date Collected: 01/14/21 13:45
Date Received: 01/15/21 09:48

Lab Sample ID: 280-144657-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:34	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-469834/1-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		01/20/21 14:00	01/21/21 09:42	1

Lab Sample ID: LCS 240-469834/2-A
Matrix: Water
Analysis Batch: 470021

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-469834/1-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		01/20/21 14:00	01/21/21 18:00	1
Barium	ND		0.0050	0.0022	mg/L		01/20/21 14:00	01/21/21 18:00	1
Beryllium	ND		0.0010	0.00031	mg/L		01/20/21 14:00	01/21/21 18:00	1
Calcium	ND		1.0	0.58	mg/L		01/20/21 14:00	01/21/21 18:00	1
Cadmium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:00	1
Cobalt	ND		0.0010	0.00019	mg/L		01/20/21 14:00	01/21/21 18:00	1
Chromium	ND		0.0020	0.00098	mg/L		01/20/21 14:00	01/21/21 18:00	1
Molybdenum	ND		0.010	0.0011	mg/L		01/20/21 14:00	01/21/21 18:00	1
Lead	ND		0.0010	0.00045	mg/L		01/20/21 14:00	01/21/21 18:00	1
Antimony	ND		0.0020	0.00057	mg/L		01/20/21 14:00	01/21/21 18:00	1
Selenium	ND		0.0050	0.00089	mg/L		01/20/21 14:00	01/21/21 18:00	1
Lithium	ND		0.0080	0.0017	mg/L		01/20/21 14:00	01/21/21 18:00	1
Thallium	ND		0.0010	0.00020	mg/L		01/20/21 14:00	01/21/21 18:00	1

Lab Sample ID: LCS 240-469834/3-A
Matrix: Water
Analysis Batch: 470172

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 469834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.00		mg/L		100	80 - 120
Barium	1.00	0.953		mg/L		95	80 - 120
Beryllium	0.500	0.502		mg/L		100	80 - 120
Calcium	25.0	24.3		mg/L		97	80 - 120
Cadmium	0.500	0.478		mg/L		96	80 - 120
Cobalt	0.500	0.504		mg/L		101	80 - 120
Chromium	0.500	0.485		mg/L		97	80 - 120
Molybdenum	0.500	0.489		mg/L		98	80 - 120
Lead	0.500	0.496		mg/L		99	80 - 120
Antimony	0.100	0.0962		mg/L		96	80 - 120
Selenium	1.00	0.956		mg/L		96	80 - 120
Lithium	0.500	0.516		mg/L		103	80 - 120
Thallium	1.00	0.944		mg/L		94	80 - 120

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-469837/1-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 469837

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		01/20/21 12:00	01/21/21 15:01	1

Lab Sample ID: LCS 240-469837/2-A
Matrix: Water
Analysis Batch: 470038

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 469837

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00451		mg/L		90	80 - 120

QC Association Summary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Prep Batch: 469834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	3005A	
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-469834/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-469834/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 469837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	7470A	
MB 240-469837/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-469837/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 470021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	6010C	469834
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	6010C	469834
LCS 240-469834/2-A	Lab Control Sample	Total Recoverable	Water	6010C	469834

Analysis Batch: 470038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	7470A	469837
MB 240-469837/1-A	Method Blank	Total/NA	Water	7470A	469837
LCS 240-469837/2-A	Lab Control Sample	Total/NA	Water	7470A	469837

Analysis Batch: 470172

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	6020A	469834
MB 240-469834/1-A	Method Blank	Total Recoverable	Water	6020A	469834
LCS 240-469834/3-A	Lab Control Sample	Total Recoverable	Water	6020A	469834

Analysis Batch: 470262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144657-1	W-2B	Dissolved	Water	6020A	469834

Lab Chronicle

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2B
Lab Sample ID: 280-144657-1
Date Collected: 01/14/21 13:45
Matrix: Water
Date Received: 01/15/21 09:48

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			470021	01/21/21 11:42	WKD	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			470172	01/21/21 18:58	DSH	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	469834	01/20/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		10			470262	01/22/21 15:17	DSH	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	469837	01/20/21 12:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			470038	01/21/21 15:34	SLD	TAL CAN

Laboratory References:
TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-144657-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20 *
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-21 *
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

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Client Information	Sampler: Emily Munoz	Lab PM: Bandy, Darlene F	Carrier Tracking No(s):	COC No: 2 (Dissolved)
Client Contact: Molly Reeves	Phone: 720 233 3436	E-Mail: Darlene.Bandy@Eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-018			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	Disolved 6010C Boron, 6020A Appiii+IV, 7470A Hg	~~9056A_pH~~, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra226, Ra226RSRa226 combined	Total Number of containers	Special Instructions/Note:
~~W-1~~				Water								
~~W-2A~~				Water								
W-2B	01/14/21	1345	G	Water	Y	N		1				
~~W-3~~				Water								
W-4				Water								
W-5				Water								
W-6				Water								
W-7				Water								
W-8A				Water								
W-8B				Water								
~~MW-1~~				Water								

280-144657 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
1		01/15/21 0948	HDR		01/15/2021 0948	EMA-DEN
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 152254, 152549

Cooler Temperature(s) °C and Other Remarks: 2.4, 1.9 IR#9CF+0.2

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-554716.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-144657-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 2/4/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	6010C/FIELD_FLTRD (MOD) Boron	6020A/FIELD_FLTRD 13 Total Metals (w/collision cell) SUB	7470A/FIELD_FLTRD Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-2B (280-144657-1)	1/14/21	13:45 Mountain		Water			X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	1/18/21 1355		[signature]	1-19-21 1000	[signature]
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 11/01/2020

1/26/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Matt

Cooler Received on 1-19-21 Opened on 1-19-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # A Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.5 °C Corrected Cooler Temp. 1.6 °C

IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   - -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   - -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   - -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? (Yes) No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC907861
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-144657-1

Login Number: 144657
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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	False	Refer to Job Narrative for details.
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	

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147321-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
5/13/2021 9:26:06 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-147321-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147321-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/12/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.3º C, 3.2º C, 5.0º C and 5.0º C.

Please note, some of the unpreserved volume was split off, filtered, and preserved for the requested Dissolved Metals analyses.

Please note, the Radioactive analyses are reported under job 280-147321-2.

DISSOLVED METALS- Method 6010C/6020A/7470A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- Method 6010C/6020A/7470A
Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

The accuracy and precision of the Calcium MS/MSD performed on a sample W-3DUP could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

GENERAL CHEMISTRY- VARIOUS
Several samples required dilution prior to various analyses. The reporting limits have been adjusted accordingly.

Due to the Sulfate result not corresponding to historical data, sample MW-3 for Sulfate Method 9056A were re-extracted out of the prescribed hold time and reanalyzed. Both sets of data are included in this report. Please note that the reanalysis sample results should be considered estimated.

The Fluoride sample duplicate analysis data performed on sample MW-6 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD for Sulfate method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control;

Job ID: 280-147321-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

therefore, corrective action is deemed unnecessary.

The Total Suspended Solids sample duplicate analysis data associated with QC batch 280-532455 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

Detection Summary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-3
Lab Sample ID: 280-147321-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00057	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0017	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.047		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	470		10	5.8	mg/L	10		6020A	Total Recoverable
Cobalt	0.00046	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.021		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.013		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.074		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	49		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.5		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1700		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	3200		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3-DUP
Lab Sample ID: 280-147321-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00064	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.00092	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.046		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	470		10	5.8	mg/L	10		6020A	Total Recoverable
Cobalt	0.00043	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.021		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.013		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.077		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	49		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.3		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2100		100	21	mg/L	20		9056A	Total/NA
Total Dissolved Solids (TDS)	3300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-5B
Lab Sample ID: 280-147321-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.017		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	480		10	5.8	mg/L	10		6020A	Total Recoverable
Cadmium	0.0014		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0036		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0018	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0011	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00086	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.23		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	99		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.3		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3100		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	4700		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.0	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-6
Lab Sample ID: 280-147321-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	7.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	6.6		0.10	0.023	mg/L	1		6010C	Dissolved
Antimony	0.00094	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0044	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.053		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	520		10	5.8	mg/L	10		6020A	Total Recoverable
Cadmium	0.00045	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0013		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0011	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.43		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.0012		0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	0.015		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.052		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
Arsenic	0.0042	J	0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.031		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	460		1.0	0.58	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-6 (Continued) — Lab Sample ID: 280-147321-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00031	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.00095	J	0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.46		0.010	0.0011	mg/L	1		6020A	Dissolved
Antimony	0.00086	J	0.0020	0.00057	mg/L	1		6020A	Dissolved
Selenium	0.014		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.054		0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	130		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	1.7		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	5200		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	5900		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	11		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5 — Lab Sample ID: 280-147321-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	3.8		0.10	0.023	mg/L	1		6010C	Dissolved
Arsenic	0.0017	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.018		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	400		10	5.8	mg/L	10		6020A	Total Recoverable
Cobalt	0.0035		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.028		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0046	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.41		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
Arsenic	0.0010	J	0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.016		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	380		1.0	0.58	mg/L	1		6020A	Dissolved
Cobalt	0.0032		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.030		0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.0040	J	0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.49		0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	470		30	10	mg/L	10		9056A	Total/NA
Fluoride	3.5		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	9800		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	26000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-11 — Lab Sample ID: 280-147321-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.10	0.023	mg/L	1		6010C	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-11 (Continued)
Lab Sample ID: 280-147321-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.0014	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.019		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.013		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	360		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0011		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.010		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0021		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0041	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.3		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0036		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.2		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	290		30	10	mg/L	10		9056A	Total/NA
Fluoride	17		5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	15000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	24000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2a
Lab Sample ID: 280-147321-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0013	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.018		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.017		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	390		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0040		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.010		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0016	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0027	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00069	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	2.9		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0048		0.0010	0.00020	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-2a (Continued) — Lab Sample ID: 280-147321-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	4.2		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	830		30	10	mg/L	10		9056A	Total/NA
Fluoride	60		5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	49000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	43000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	23		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 280-147321-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0012	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0074		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.012		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	360		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0091		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.036		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.00099	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0031	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.64		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0023		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.2		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	320		30	10	mg/L	10		9056A	Total/NA
Fluoride	49		5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	69000		2500	520	mg/L	500		9056A	Total/NA
Sulfate	39000	H	2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	56000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 280-147321-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0092		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.0068		0.0050	0.0022	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-6 (Continued) — Lab Sample ID: 280-147321-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	460		10	5.8	mg/L	10		6020A	Total Recoverable
Cobalt	0.00062	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0092	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.0		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.18		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220	J	300	100	mg/L	100		9056A	Total/NA
Fluoride	1.1		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3500		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	7400		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.0	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-2B — Lab Sample ID: 280-147321-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.6		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0013	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.022		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.013		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	380		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0011		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.034		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0069	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.4		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0097		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	4.7		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	530		30	10	mg/L	10		9056A	Total/NA
Fluoride	39		5.0	1.7	mg/L	10		9056A	Total/NA
Sulfate	36000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	45000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN

Protocol References:

None = None

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147321-1	W-3	Water	04/09/21 08:40	04/12/21 08:35	
280-147321-2	W-3-DUP	Water	04/09/21 08:40	04/12/21 08:35	
280-147321-3	W-5B	Water	04/09/21 11:05	04/12/21 08:35	
280-147321-4	W-6	Water	04/09/21 16:40	04/12/21 08:35	
280-147321-5	W-5	Water	04/06/21 16:30	04/12/21 08:35	
280-147321-6	W-11	Water	04/09/21 15:35	04/12/21 08:35	
280-147321-7	W-2a	Water	04/09/21 12:00	04/12/21 08:35	
280-147321-8	MW-3	Water	04/08/21 17:45	04/12/21 08:35	
280-147321-9	MW-6	Water	04/09/21 09:15	04/12/21 08:35	
280-147321-10	MW-2B	Water	04/09/21 16:25	04/12/21 08:35	

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 13:16	1

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 13:38	1

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 13:43	1

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.0		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 13:56	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.0		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 14:00	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.10	0.023	mg/L		04/15/21 14:00	04/16/21 15:31	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.3		0.10	0.023	mg/L		04/15/21 14:00	04/16/21 15:36	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.2		0.10	0.023	mg/L		04/15/21 14:00	04/16/21 15:40	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 14:10	1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6		0.10	0.023	mg/L		04/15/21 14:00	04/16/21 15:45	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	6.6		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:43	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.8		0.10	0.023	mg/L		04/29/21 14:00	05/03/21 11:43	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00057	J	0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 12:47	1
Arsenic	0.0017	J	0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 12:47	1
Barium	0.047		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 12:47	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 12:47	1
Calcium	470		10	5.8	mg/L		04/14/21 14:00	04/15/21 14:53	10
Cadmium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 12:47	1
Cobalt	0.00046	J	0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 12:47	1
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 12:47	1
Molybdenum	0.021		0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 12:47	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 12:47	1
Selenium	0.013		0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 12:47	1
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 12:47	1
Lithium	0.074		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 12:47	1

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00064	J	0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 12:49	1
Arsenic	0.00092	J	0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 12:49	1
Barium	0.046		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 12:49	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 12:49	1
Calcium	470		10	5.8	mg/L		04/14/21 14:00	04/15/21 14:55	10
Cadmium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 12:49	1
Cobalt	0.00043	J	0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 12:49	1
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 12:49	1
Molybdenum	0.021		0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 12:49	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 12:49	1
Selenium	0.013		0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 12:49	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 12:49	1
Lithium	**0.077**		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 12:49	1

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 13:09	1
Arsenic	ND		0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 13:09	1
Barium	**0.017**		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 13:09	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 13:09	1
Calcium	**480**		10	5.8	mg/L		04/14/21 14:00	04/15/21 15:08	10
Cadmium	**0.0014**		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:09	1
Cobalt	**0.0036**		0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 13:09	1
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 13:09	1
Molybdenum	**0.0018**	**J**	0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 13:09	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 13:09	1
Selenium	**0.0011**	**J**	0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 13:09	1
Thallium	**0.00086**	**J**	0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:09	1
Lithium	**0.23**		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 13:09	1

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00094**	**J**	0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 13:12	1
Arsenic	**0.0044**	**J**	0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 13:12	1
Barium	**0.053**		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 13:12	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 13:12	1
Calcium	**520**		10	5.8	mg/L		04/14/21 14:00	04/15/21 15:10	10
Cadmium	**0.00045**	**J**	0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:12	1
Cobalt	**0.0013**		0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 13:12	1
Chromium	**0.0011**	**J**	0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 13:12	1
Molybdenum	**0.43**		0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 13:12	1
Lead	**0.0012**		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 13:12	1
Selenium	**0.015**		0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 13:12	1
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:12	1
Lithium	**0.052**		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 13:12	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 13:14	1
Arsenic	**0.0017**	**J**	0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 13:14	1
Barium	**0.018**		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 13:14	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 13:14	1
Calcium	**400**		10	5.8	mg/L		04/14/21 14:00	04/15/21 15:13	10
Cadmium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:14	1
Cobalt	**0.0035**		0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 13:14	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 13:14	1
Molybdenum	**0.028**		0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 13:14	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 13:14	1
Selenium	**0.0046**	**J**	0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 13:14	1
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:14	1
Lithium	**0.41**		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 13:14	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0014**	**J**	0.0020	0.00057	mg/L		04/15/21 14:00	04/19/21 18:54	1
Arsenic	**0.019**		0.0050	0.00075	mg/L		04/15/21 14:00	04/19/21 18:54	1
Barium	**0.013**		0.0050	0.0022	mg/L		04/15/21 14:00	04/19/21 18:54	1
Beryllium	ND		0.0010	0.00031	mg/L		04/15/21 14:00	04/19/21 18:54	1
Calcium	**360**		1.0	0.58	mg/L		04/15/21 14:00	04/19/21 18:54	1
Cadmium	**0.0011**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:54	1
Cobalt	**0.010**		0.0010	0.00019	mg/L		04/15/21 14:00	04/19/21 18:54	1
Chromium	**0.0021**		0.0020	0.00098	mg/L		04/15/21 14:00	04/19/21 18:54	1
Molybdenum	**0.0041**	**J**	0.010	0.0011	mg/L		04/15/21 14:00	04/19/21 18:54	1
Lead	ND		0.0010	0.00045	mg/L		04/15/21 14:00	04/19/21 18:54	1
Selenium	**2.3**		0.0050	0.00089	mg/L		04/15/21 14:00	04/19/21 18:54	1
Thallium	**0.0036**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:54	1
Lithium	**3.2**		0.040	0.0083	mg/L		04/15/21 14:00	04/19/21 18:39	5

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0013**	**J**	0.0020	0.00057	mg/L		04/15/21 14:00	04/19/21 18:56	1
Arsenic	**0.018**		0.0050	0.00075	mg/L		04/15/21 14:00	04/19/21 18:56	1
Barium	**0.017**		0.0050	0.0022	mg/L		04/15/21 14:00	04/19/21 18:56	1
Beryllium	ND		0.0010	0.00031	mg/L		04/15/21 14:00	04/19/21 18:56	1
Calcium	**390**		1.0	0.58	mg/L		04/15/21 14:00	04/19/21 18:56	1
Cadmium	**0.0040**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:56	1
Cobalt	**0.010**		0.0010	0.00019	mg/L		04/15/21 14:00	04/19/21 18:56	1
Chromium	**0.0016**	**J**	0.0020	0.00098	mg/L		04/15/21 14:00	04/19/21 18:56	1
Molybdenum	**0.0027**	**J**	0.010	0.0011	mg/L		04/15/21 14:00	04/19/21 18:56	1
Lead	**0.00069**	**J**	0.0010	0.00045	mg/L		04/15/21 14:00	04/19/21 18:56	1
Selenium	**2.9**		0.0050	0.00089	mg/L		04/15/21 14:00	04/19/21 18:56	1
Thallium	**0.0048**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:56	1
Lithium	**4.2**		0.040	0.0083	mg/L		04/15/21 14:00	04/19/21 18:41	5

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0012**	**J**	0.0020	0.00057	mg/L		04/15/21 14:00	04/19/21 18:59	1
Arsenic	**0.0074**		0.0050	0.00075	mg/L		04/15/21 14:00	04/19/21 18:59	1
Barium	**0.012**		0.0050	0.0022	mg/L		04/15/21 14:00	04/19/21 18:59	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.00031	mg/L		04/15/21 14:00	04/19/21 18:59	1
Calcium	**360**		1.0	0.58	mg/L		04/15/21 14:00	04/19/21 18:59	1
Cadmium	**0.0091**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:59	1
Cobalt	**0.036**		0.0010	0.00019	mg/L		04/15/21 14:00	04/19/21 18:59	1
Chromium	**0.00099**	**J**	0.0020	0.00098	mg/L		04/15/21 14:00	04/19/21 18:59	1
Molybdenum	**0.0031**	**J**	0.010	0.0011	mg/L		04/15/21 14:00	04/19/21 18:59	1
Lead	ND		0.0010	0.00045	mg/L		04/15/21 14:00	04/19/21 18:59	1
Selenium	**0.64**		0.0050	0.00089	mg/L		04/15/21 14:00	04/19/21 18:59	1
Thallium	**0.0023**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:59	1
Lithium	**2.2**		0.040	0.0083	mg/L		04/15/21 14:00	04/19/21 18:44	5

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/14/21 14:00	04/16/21 13:19	1
Arsenic	**0.0092**		0.0050	0.00075	mg/L		04/14/21 14:00	04/16/21 13:19	1
Barium	**0.0068**		0.0050	0.0022	mg/L		04/14/21 14:00	04/16/21 13:19	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/16/21 13:19	1
Calcium	**460**		10	5.8	mg/L		04/14/21 14:00	04/15/21 15:23	10
Cadmium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:19	1
Cobalt	**0.00062**	**J**	0.0010	0.00019	mg/L		04/14/21 14:00	04/16/21 13:19	1
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/16/21 13:19	1
Molybdenum	**0.0092**	**J**	0.010	0.0011	mg/L		04/14/21 14:00	04/16/21 13:19	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/16/21 13:19	1
Selenium	**1.0**		0.0050	0.00089	mg/L		04/14/21 14:00	04/16/21 13:19	1
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/16/21 13:19	1
Lithium	**0.18**		0.0080	0.0017	mg/L		04/14/21 14:00	04/16/21 13:19	1

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0013**	**J**	0.0020	0.00057	mg/L		04/15/21 14:00	04/19/21 19:02	1
Arsenic	**0.022**		0.0050	0.00075	mg/L		04/15/21 14:00	04/19/21 19:02	1
Barium	**0.013**		0.0050	0.0022	mg/L		04/15/21 14:00	04/19/21 19:02	1
Beryllium	ND		0.0010	0.00031	mg/L		04/15/21 14:00	04/19/21 19:02	1
Calcium	**380**		1.0	0.58	mg/L		04/15/21 14:00	04/19/21 19:02	1
Cadmium	**0.0011**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 19:02	1
Cobalt	**0.034**		0.0010	0.00019	mg/L		04/15/21 14:00	04/19/21 19:02	1
Chromium	ND		0.0020	0.00098	mg/L		04/15/21 14:00	04/19/21 19:02	1
Molybdenum	**0.0069**	**J**	0.010	0.0011	mg/L		04/15/21 14:00	04/19/21 19:02	1
Lead	ND		0.0010	0.00045	mg/L		04/15/21 14:00	04/19/21 19:02	1
Selenium	**2.4**		0.0050	0.00089	mg/L		04/15/21 14:00	04/19/21 19:02	1
Thallium	**0.0097**		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 19:02	1
Lithium	**4.7**		0.040	0.0083	mg/L		04/15/21 14:00	04/19/21 18:46	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0042**	**J**	0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 14:31	1
Barium	**0.031**		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 14:31	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 14:31	1
Calcium	**460**		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 14:31	1
Cadmium	**0.00031**	**J**	0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 14:31	1
Cobalt	**0.00095**	**J**	0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 14:31	1
Chromium	ND		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 14:31	1
Molybdenum	**0.46**		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 14:31	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 14:31	1
Antimony	**0.00086**	**J**	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 14:31	1
Selenium	**0.014**		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 14:31	1
Lithium	**0.054**		0.0080	0.0017	mg/L		04/20/21 15:00	04/21/21 14:31	1
Thallium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 14:31	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0010**	**J**	0.0050	0.00075	mg/L		04/29/21 14:00	05/03/21 20:24	1
Barium	**0.016**		0.0050	0.0022	mg/L		04/29/21 14:00	05/03/21 20:24	1
Beryllium	ND		0.0010	0.00031	mg/L		04/29/21 14:00	05/03/21 20:24	1
Calcium	**380**		1.0	0.58	mg/L		04/29/21 14:00	05/03/21 20:24	1
Cadmium	ND		0.0010	0.00020	mg/L		04/29/21 14:00	05/03/21 20:24	1
Cobalt	**0.0032**		0.0010	0.00019	mg/L		04/29/21 14:00	05/03/21 20:24	1
Chromium	ND		0.0020	0.00098	mg/L		04/29/21 14:00	05/03/21 20:24	1
Molybdenum	**0.030**		0.010	0.0011	mg/L		04/29/21 14:00	05/03/21 20:24	1
Lead	ND		0.0010	0.00045	mg/L		04/29/21 14:00	05/03/21 20:24	1
Antimony	ND		0.0020	0.00057	mg/L		04/29/21 14:00	05/03/21 20:24	1
Selenium	**0.0040**	**J**	0.0050	0.00089	mg/L		04/29/21 14:00	05/03/21 20:24	1
Lithium	**0.49**		0.0080	0.0017	mg/L		04/29/21 14:00	05/03/21 20:24	1
Thallium	ND		0.0010	0.00020	mg/L		04/29/21 14:00	05/03/21 20:24	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:30	1

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:32	1

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:34	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:36	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:38	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/15/21 12:00	04/15/21 14:42	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/15/21 12:00	04/15/21 14:45	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/15/21 12:00	04/15/21 14:47	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:47	1

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/15/21 12:00	04/15/21 14:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:32	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/29/21 14:00	04/30/21 17:30	1

General Chemistry

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			04/14/21 16:12	1
Temperature	21.5	HF	1.0	1.0	Degrees C			04/14/21 16:12	1
Chloride	49		3.0	1.0	mg/L			05/06/21 02:34	1
Fluoride	1.5		0.50	0.17	mg/L			05/06/21 02:34	1
Sulfate	1700		1000	210	mg/L			05/06/21 03:04	200
Total Dissolved Solids (TDS)	3200		40	19	mg/L			04/15/21 14:42	1
Total Suspended Solids	8.0		4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			04/14/21 16:15	1
Temperature	20.3	HF	1.0	1.0	Degrees C			04/14/21 16:15	1
Chloride	49		3.0	1.0	mg/L			05/06/21 03:49	1
Fluoride	1.3		0.50	0.17	mg/L			05/06/21 03:49	1
Sulfate	2100		100	21	mg/L			05/06/21 04:03	20
Total Dissolved Solids (TDS)	3300		40	19	mg/L			04/15/21 14:42	1
Total Suspended Solids	1.2	J	4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			04/14/21 16:19	1
Temperature	19.7	HF	1.0	1.0	Degrees C			04/14/21 16:19	1
Chloride	99		3.0	1.0	mg/L			05/06/21 04:18	1
Fluoride	1.3		0.50	0.17	mg/L			05/06/21 04:18	1
Sulfate	3100		250	52	mg/L			05/06/21 04:33	50
Total Dissolved Solids (TDS)	4700		40	19	mg/L			04/15/21 14:42	1
Total Suspended Solids	2.0	J	4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			04/14/21 16:23	1
Temperature	19.7	HF	1.0	1.0	Degrees C			04/14/21 16:23	1
Chloride	130		3.0	1.0	mg/L			05/06/21 04:48	1
Fluoride	1.7		0.50	0.17	mg/L			05/06/21 04:48	1
Sulfate	5200		2500	520	mg/L			05/06/21 05:18	500
Total Dissolved Solids (TDS)	5900		40	19	mg/L			04/15/21 14:42	1
Total Suspended Solids	11		4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			04/14/21 16:26	1
Temperature	19.9	HF	1.0	1.0	Degrees C			04/14/21 16:26	1

General Chemistry (Continued)

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	470		30	10	mg/L			05/04/21 04:18	10
Fluoride	3.5		0.50	0.17	mg/L			05/04/21 04:04	1
Sulfate	9800		1000	210	mg/L			05/04/21 05:00	200
Total Dissolved Solids (TDS)	26000		1000	470	mg/L			04/13/21 14:33	1
Total Suspended Solids	8.4		4.0	1.1	mg/L			04/13/21 15:32	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			04/14/21 16:30	1
Temperature	20.6	HF	1.0	1.0	Degrees C			04/14/21 16:30	1
Chloride	290		30	10	mg/L			05/06/21 07:03	10
Fluoride	17		5.0	1.7	mg/L			05/06/21 07:03	10
Sulfate	15000		500	100	mg/L			05/06/21 07:18	100
Total Dissolved Solids (TDS)	24000		1000	470	mg/L			04/15/21 14:42	1
Total Suspended Solids	9.2		4.0	1.1	mg/L			04/14/21 12:51	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			04/14/21 16:34	1
Temperature	21.3	HF	1.0	1.0	Degrees C			04/14/21 16:34	1
Chloride	830		30	10	mg/L			05/06/21 06:18	10
Fluoride	60		5.0	1.7	mg/L			05/06/21 06:18	10
Sulfate	49000		5000	1000	mg/L			05/06/21 06:33	1000
Total Dissolved Solids (TDS)	43000		1000	470	mg/L			04/15/21 14:42	1
Total Suspended Solids	23		4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			04/14/21 16:38	1
Temperature	20.9	HF	1.0	1.0	Degrees C			04/14/21 16:38	1
Chloride	320		30	10	mg/L			05/06/21 10:09	10
Fluoride	49		5.0	1.7	mg/L			05/06/21 10:09	10
Sulfate	69000		2500	520	mg/L			05/06/21 10:24	500
Sulfate	39000	H	2500	520	mg/L			05/11/21 06:21	500
Total Dissolved Solids (TDS)	56000		1000	470	mg/L			04/13/21 14:33	1
Total Suspended Solids	14		4.0	1.1	mg/L			04/14/21 09:04	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			04/14/21 16:41	1
Temperature	20.2	HF	1.0	1.0	Degrees C			04/14/21 16:41	1
Chloride	220	J	300	100	mg/L			05/06/21 09:02	100

General Chemistry (Continued)

Client Sample ID: MW-6
Lab Sample ID: 280-147321-9
Date Collected: 04/09/21 09:15
Matrix: Water
Date Received: 04/12/21 08:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.1		0.50	0.17	mg/L			05/06/21 07:32	1
Sulfate	3500		500	100	mg/L			05/06/21 09:02	100
Total Dissolved Solids (TDS)	7400		40	19	mg/L			04/15/21 14:42	1
Total Suspended Solids	2.0	J	4.0	1.1	mg/L			04/14/21 09:05	1

Client Sample ID: MW-2B
Lab Sample ID: 280-147321-10
Date Collected: 04/09/21 16:25
Matrix: Water
Date Received: 04/12/21 08:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			04/14/21 16:45	1
Temperature	20.1	HF	1.0	1.0	Degrees C			04/14/21 16:45	1
Chloride	530		30	10	mg/L			05/06/21 10:53	10
Fluoride	39		5.0	1.7	mg/L			05/06/21 10:53	10
Sulfate	36000		1000	210	mg/L			05/06/21 11:08	200
Total Dissolved Solids (TDS)	45000		1000	470	mg/L			04/15/21 14:42	1
Total Suspended Solids	4.0		4.0	1.1	mg/L			04/14/21 09:05	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-481097/1-A
Matrix: Water
Analysis Batch: 481393

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/14/21 14:00	04/15/21 13:08	1

Lab Sample ID: LCS 240-481097/2-A
Matrix: Water
Analysis Batch: 481393

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.04		mg/L		104	80 - 120

Lab Sample ID: 280-147321-1 MS
Matrix: Water
Analysis Batch: 481393

Client Sample ID: W-3
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.0		1.00	2.19		mg/L		114	75 - 125

Lab Sample ID: 280-147321-1 MSD
Matrix: Water
Analysis Batch: 481393

Client Sample ID: W-3
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.0		1.00	1.95		mg/L		91	75 - 125	11	20

Lab Sample ID: MB 240-481292/1-A
Matrix: Water
Analysis Batch: 481670

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/15/21 14:00	04/16/21 14:41	1

Lab Sample ID: LCS 240-481292/2-A
Matrix: Water
Analysis Batch: 481670

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.03		mg/L		103	80 - 120

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482189

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 21:27	1

Lab Sample ID: LCS 240-481984/2-A
Matrix: Water
Analysis Batch: 482189

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.919		mg/L		92	80 - 120

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-483392/1-A
Matrix: Water
Analysis Batch: 483625

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483392

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/29/21 14:00	04/30/21 12:03	1

Lab Sample ID: LCS 240-483392/2-A
Matrix: Water
Analysis Batch: 483625

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.03		mg/L		103	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-481097/1-A
Matrix: Water
Analysis Batch: 481461

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/14/21 14:00	04/15/21 14:04	1
Barium	ND		0.0050	0.0022	mg/L		04/14/21 14:00	04/15/21 14:04	1
Beryllium	ND		0.0010	0.00031	mg/L		04/14/21 14:00	04/15/21 14:04	1
Calcium	ND		1.0	0.58	mg/L		04/14/21 14:00	04/15/21 14:04	1
Cadmium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/15/21 14:04	1
Cobalt	ND		0.0010	0.00019	mg/L		04/14/21 14:00	04/15/21 14:04	1
Chromium	ND		0.0020	0.00098	mg/L		04/14/21 14:00	04/15/21 14:04	1
Molybdenum	ND		0.010	0.0011	mg/L		04/14/21 14:00	04/15/21 14:04	1
Antimony	ND		0.0020	0.00057	mg/L		04/14/21 14:00	04/15/21 14:04	1
Lead	ND		0.0010	0.00045	mg/L		04/14/21 14:00	04/15/21 14:04	1
Selenium	ND		0.0050	0.00089	mg/L		04/14/21 14:00	04/15/21 14:04	1
Lithium	ND		0.0080	0.0017	mg/L		04/14/21 14:00	04/15/21 14:04	1
Thallium	ND		0.0010	0.00020	mg/L		04/14/21 14:00	04/15/21 14:04	1

Lab Sample ID: LCS 240-481097/3-A
Matrix: Water
Analysis Batch: 481461

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.895		mg/L		89	80 - 120
Barium	1.00	0.938		mg/L		94	80 - 120
Beryllium	0.500	0.442		mg/L		88	80 - 120
Calcium	25.0	24.1		mg/L		96	80 - 120
Cadmium	0.500	0.452		mg/L		90	80 - 120
Cobalt	0.500	0.458		mg/L		92	80 - 120
Chromium	0.500	0.468		mg/L		94	80 - 120
Molybdenum	0.500	0.454		mg/L		91	80 - 120
Antimony	0.100	0.0942		mg/L		94	80 - 120
Lead	0.500	0.470		mg/L		94	80 - 120
Selenium	1.00	0.892		mg/L		89	80 - 120
Lithium	0.500	0.457		mg/L		91	80 - 120
Thallium	1.00	0.919		mg/L		92	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-147321-2 MS
Matrix: Water
Analysis Batch: 481461

Client Sample ID: W-3-DUP
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	470		25.0	475	4	mg/L		3	75 - 125

Lab Sample ID: 280-147321-2 MS
Matrix: Water
Analysis Batch: 481675

Client Sample ID: W-3-DUP
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00092	J	1.00	0.962		mg/L		96	75 - 125
Barium	0.046		1.00	0.974		mg/L		93	75 - 125
Beryllium	ND		0.500	0.456		mg/L		91	75 - 125
Calcium	430		25.0	434	4	mg/L		17	75 - 125
Cadmium	ND		0.500	0.448		mg/L		90	75 - 125
Cobalt	0.00043	J	0.500	0.493		mg/L		99	75 - 125
Chromium	ND		0.500	0.451		mg/L		90	75 - 125
Molybdenum	0.021		0.500	0.499		mg/L		96	75 - 125
Antimony	0.00064	J	0.100	0.0960		mg/L		95	75 - 125
Lead	ND		0.500	0.457		mg/L		91	75 - 125
Selenium	0.013		1.00	0.945		mg/L		93	75 - 125
Lithium	0.077		0.500	0.516		mg/L		88	75 - 125
Thallium	ND		1.00	0.897		mg/L		90	75 - 125

Lab Sample ID: 280-147321-2 MSD
Matrix: Water
Analysis Batch: 481461

Client Sample ID: W-3-DUP
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	470		25.0	474	4	mg/L		-2	75 - 125	0	20

Lab Sample ID: 280-147321-2 MSD
Matrix: Water
Analysis Batch: 481675

Client Sample ID: W-3-DUP
Prep Type: Total Recoverable
Prep Batch: 481097

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00092	J	1.00	0.965		mg/L		96	75 - 125	0	20
Barium	0.046		1.00	0.986		mg/L		94	75 - 125	1	20
Beryllium	ND		0.500	0.468		mg/L		94	75 - 125	3	20
Calcium	430		25.0	433	4	mg/L		14	75 - 125	0	20
Cadmium	ND		0.500	0.454		mg/L		91	75 - 125	1	20
Cobalt	0.00043	J	0.500	0.497		mg/L		99	75 - 125	1	20
Chromium	ND		0.500	0.454		mg/L		91	75 - 125	1	20
Molybdenum	0.021		0.500	0.500		mg/L		96	75 - 125	0	20
Antimony	0.00064	J	0.100	0.0966		mg/L		96	75 - 125	1	20
Lead	ND		0.500	0.461		mg/L		92	75 - 125	1	20
Selenium	0.013		1.00	0.958		mg/L		95	75 - 125	1	20
Lithium	0.077		0.500	0.522		mg/L		89	75 - 125	1	20
Thallium	ND		1.00	0.906		mg/L		91	75 - 125	1	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-481292/1-A
Matrix: Water
Analysis Batch: 481756

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481292

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/15/21 14:00	04/19/21 18:12	1
Barium	ND		0.0050	0.0022	mg/L		04/15/21 14:00	04/19/21 18:12	1
Beryllium	ND		0.0010	0.00031	mg/L		04/15/21 14:00	04/19/21 18:12	1
Calcium	ND		1.0	0.58	mg/L		04/15/21 14:00	04/19/21 18:12	1
Cadmium	ND		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:12	1
Cobalt	ND		0.0010	0.00019	mg/L		04/15/21 14:00	04/19/21 18:12	1
Chromium	ND		0.0020	0.00098	mg/L		04/15/21 14:00	04/19/21 18:12	1
Molybdenum	ND		0.010	0.0011	mg/L		04/15/21 14:00	04/19/21 18:12	1
Antimony	ND		0.0020	0.00057	mg/L		04/15/21 14:00	04/19/21 18:12	1
Lead	ND		0.0010	0.00045	mg/L		04/15/21 14:00	04/19/21 18:12	1
Selenium	ND		0.0050	0.00089	mg/L		04/15/21 14:00	04/19/21 18:12	1
Lithium	ND		0.0080	0.0017	mg/L		04/15/21 14:00	04/19/21 18:12	1
Thallium	ND		0.0010	0.00020	mg/L		04/15/21 14:00	04/19/21 18:12	1

Lab Sample ID: LCS 240-481292/3-A
Matrix: Water
Analysis Batch: 481756

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481292

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.937		mg/L		94	80 - 120
Barium	1.00	0.938		mg/L		94	80 - 120
Beryllium	0.500	0.466		mg/L		93	80 - 120
Calcium	25.0	24.0		mg/L		96	80 - 120
Cadmium	0.500	0.463		mg/L		93	80 - 120
Cobalt	0.500	0.468		mg/L		94	80 - 120
Chromium	0.500	0.472		mg/L		94	80 - 120
Molybdenum	0.500	0.472		mg/L		94	80 - 120
Antimony	0.100	0.0972		mg/L		97	80 - 120
Lead	0.500	0.484		mg/L		97	80 - 120
Selenium	1.00	0.934		mg/L		93	80 - 120
Lithium	0.500	0.474		mg/L		95	80 - 120
Thallium	1.00	0.950		mg/L		95	80 - 120

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 12:56	1
Barium	ND		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 12:56	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 12:56	1
Calcium	ND		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 12:56	1
Cadmium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 12:56	1
Cobalt	ND		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 12:56	1
Chromium	ND		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 12:56	1
Molybdenum	ND		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 12:56	1
Antimony	ND		0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 12:56	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 12:56	1
Selenium	ND		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 12:56	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0080	0.0017	mg/L		04/20/21 15:00	04/21/21 12:56	1
Thallium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 12:56	1

Lab Sample ID: LCS 240-481984/3-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.851		mg/L		85	80 - 120
Barium	1.00	0.850		mg/L		85	80 - 120
Beryllium	0.500	0.451		mg/L		90	80 - 120
Calcium	25.0	22.0		mg/L		88	80 - 120
Cadmium	0.500	0.429		mg/L		86	80 - 120
Cobalt	0.500	0.436		mg/L		87	80 - 120
Chromium	0.500	0.435		mg/L		87	80 - 120
Molybdenum	0.500	0.434		mg/L		87	80 - 120
Antimony	0.100	0.0893		mg/L		89	80 - 120
Lead	0.500	0.454		mg/L		91	80 - 120
Selenium	1.00	0.847		mg/L		85	80 - 120
Lithium	0.500	0.455		mg/L		91	80 - 120
Thallium	1.00	0.878		mg/L		88	80 - 120

Lab Sample ID: MB 240-483392/1-A
Matrix: Water
Analysis Batch: 483959

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 483392

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/29/21 14:00	05/03/21 19:27	1
Barium	ND		0.0050	0.0022	mg/L		04/29/21 14:00	05/03/21 19:27	1
Beryllium	ND		0.0010	0.00031	mg/L		04/29/21 14:00	05/03/21 19:27	1
Calcium	ND		1.0	0.58	mg/L		04/29/21 14:00	05/03/21 19:27	1
Cadmium	ND		0.0010	0.00020	mg/L		04/29/21 14:00	05/03/21 19:27	1
Cobalt	ND		0.0010	0.00019	mg/L		04/29/21 14:00	05/03/21 19:27	1
Chromium	ND		0.0020	0.00098	mg/L		04/29/21 14:00	05/03/21 19:27	1
Molybdenum	ND		0.010	0.0011	mg/L		04/29/21 14:00	05/03/21 19:27	1
Antimony	ND		0.0020	0.00057	mg/L		04/29/21 14:00	05/03/21 19:27	1
Lead	ND		0.0010	0.00045	mg/L		04/29/21 14:00	05/03/21 19:27	1
Selenium	ND		0.0050	0.00089	mg/L		04/29/21 14:00	05/03/21 19:27	1
Lithium	ND		0.0080	0.0017	mg/L		04/29/21 14:00	05/03/21 19:27	1
Thallium	ND		0.0010	0.00020	mg/L		04/29/21 14:00	05/03/21 19:27	1

Lab Sample ID: LCS 240-483392/3-A
Matrix: Water
Analysis Batch: 483959

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.920		mg/L		92	80 - 120
Barium	1.00	0.998		mg/L		100	80 - 120
Beryllium	0.500	0.485		mg/L		97	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-483392/3-A
Matrix: Water
Analysis Batch: 483959

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 483392

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	24.7		mg/L		99	80 - 120
Cadmium	0.500	0.482		mg/L		96	80 - 120
Cobalt	0.500	0.492		mg/L		98	80 - 120
Chromium	0.500	0.494		mg/L		99	80 - 120
Molybdenum	0.500	0.485		mg/L		97	80 - 120
Antimony	0.100	0.101		mg/L		101	80 - 120
Lead	0.500	0.514		mg/L		103	80 - 120
Selenium	1.00	0.922		mg/L		92	80 - 120
Lithium	0.500	0.488		mg/L		98	80 - 120
Thallium	1.00	1.00		mg/L		100	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-481103/1-A
Matrix: Water
Analysis Batch: 481152

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 481103

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/14/21 11:00	04/14/21 17:00	1

Lab Sample ID: LCS 240-481103/2-A
Matrix: Water
Analysis Batch: 481152

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 481103

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00485		mg/L		97	80 - 120

Lab Sample ID: MB 240-481294/1-A
Matrix: Water
Analysis Batch: 481527

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 481294

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/15/21 12:00	04/15/21 14:17	1

Lab Sample ID: LCS 240-481294/2-A
Matrix: Water
Analysis Batch: 481527

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 481294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00563		mg/L		113	80 - 120

Lab Sample ID: MB 240-481985/1-A
Matrix: Water
Analysis Batch: 482206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 481985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 13:26	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 240-481985/2-A
Matrix: Water
Analysis Batch: 482206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 481985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00526		mg/L		105	80 - 120

Lab Sample ID: MB 240-483393/1-A
Matrix: Water
Analysis Batch: 483586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483393

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/29/21 14:00	04/30/21 16:46	1

Lab Sample ID: LCS 240-483393/2-A
Matrix: Water
Analysis Batch: 483586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483393

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00513		mg/L		103	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-532549/4
Matrix: Water
Analysis Batch: 532549

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-534705/6
Matrix: Water
Analysis Batch: 534705

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/03/21 14:41	1
Fluoride	ND		0.50	0.17	mg/L			05/03/21 14:41	1
Sulfate	ND		5.0	1.0	mg/L			05/03/21 14:41	1

Lab Sample ID: LCS 280-534705/4
Matrix: Water
Analysis Batch: 534705

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.1		mg/L		99	90 - 110
Fluoride	5.00	4.84		mg/L		97	90 - 110
Sulfate	100	99.1		mg/L		99	90 - 110

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-534705/5
Matrix: Water
Analysis Batch: 534705

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			100	99.1		mg/L		99	90 - 110	0	10
Fluoride			5.00	4.81		mg/L		96	90 - 110	1	10
Sulfate			100	99.2		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-534705/3
Matrix: Water
Analysis Batch: 534705

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.93		mg/L		99	50 - 150		
Fluoride			0.500	0.474	J	mg/L		95	50 - 150		
Sulfate			5.00	4.81	J	mg/L		96	50 - 150		

Lab Sample ID: MB 280-534952/6
Matrix: Water
Analysis Batch: 534952

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/05/21 15:26	1
Fluoride	ND		0.50	0.17	mg/L			05/05/21 15:26	1
Sulfate	ND		5.0	1.0	mg/L			05/05/21 15:26	1

Lab Sample ID: LCS 280-534952/4
Matrix: Water
Analysis Batch: 534952

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			100	98.0		mg/L		98	90 - 110		
Fluoride			5.00	4.76		mg/L		95	90 - 110		
Sulfate			100	96.7		mg/L		97	90 - 110		

Lab Sample ID: LCSD 280-534952/5
Matrix: Water
Analysis Batch: 534952

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			100	98.1		mg/L		98	90 - 110	0	10
Fluoride			5.00	4.79		mg/L		96	90 - 110	1	10
Sulfate			100	96.6		mg/L		97	90 - 110	0	10

Lab Sample ID: MRL 280-534952/3
Matrix: Water
Analysis Batch: 534952

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.49		mg/L		90	50 - 150		
Fluoride			0.500	0.421	J	mg/L		84	50 - 150		
Sulfate			5.00	4.66	J	mg/L		93	50 - 150		

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-147321-9 DU
Matrix: Water
Analysis Batch: 534952

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Fluoride	1.1			1.72	F3	mg/L				47	15

Lab Sample ID: MB 280-535621/6
Matrix: Water
Analysis Batch: 535621

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			05/10/21 16:32	1

Lab Sample ID: LCS 280-535621/4
Matrix: Water
Analysis Batch: 535621

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			100	101		mg/L		101	90 - 110		

Lab Sample ID: LCSD 280-535621/5
Matrix: Water
Analysis Batch: 535621

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
Sulfate			100	101		mg/L		101	90 - 110	0	10

Lab Sample ID: MRL 280-535621/3
Matrix: Water
Analysis Batch: 535621

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.35	J	mg/L		87	50 - 150		

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

Lab Sample ID: MB 280-532382/1
Matrix: Water
Analysis Batch: 532382

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			04/13/21 14:33	1

Lab Sample ID: LCS 280-532382/2
Matrix: Water
Analysis Batch: 532382

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 (TDS)			501	501		mg/L		100	88 - 114		

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

Lab Sample ID: MB 280-532686/1
Matrix: Water
Analysis Batch: 532686

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			04/15/21 14:42	1

Lab Sample ID: LCS 280-532686/2
Matrix: Water
Analysis Batch: 532686

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 (TDS)	501	487		mg/L		97	88 - 114

Lab Sample ID: 280-147321-1 DU
Matrix: Water
Analysis Batch: 532686

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	3200		3210		mg/L		0.7	10

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-532397/1
Matrix: Water
Analysis Batch: 532397

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/13/21 15:32	1

Lab Sample ID: LCS 280-532397/2
Matrix: Water
Analysis Batch: 532397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	100		mg/L		100	79 - 114

Lab Sample ID: LCSD 280-532397/3
Matrix: Water
Analysis Batch: 532397

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 Suspended Solids	100	90.8		mg/L		91	79 - 114	10	20

Lab Sample ID: MB 280-532455/1
Matrix: Water
Analysis Batch: 532455

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/14/21 09:04	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-532455/2
Matrix: Water
Analysis Batch: 532455

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	100		mg/L		100	79 - 114

Lab Sample ID: MB 280-532456/1
Matrix: Water
Analysis Batch: 532456

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/14/21 09:05	1

Lab Sample ID: LCS 280-532456/2
Matrix: Water
Analysis Batch: 532456

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	94.0		mg/L		94	79 - 114

Lab Sample ID: 280-147321-1 DU
Matrix: Water
Analysis Batch: 532456

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	8.0		7.60		mg/L		5	10

Lab Sample ID: MB 280-532506/1
Matrix: Water
Analysis Batch: 532506

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/14/21 12:51	1

Lab Sample ID: LCS 280-532506/2
Matrix: Water
Analysis Batch: 532506

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	99.6		mg/L		100	79 - 114

Lab Sample ID: 280-147321-6 DU
Matrix: Water
Analysis Batch: 532506

Client Sample ID: W-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	9.2		9.60		mg/L		4	10

Metals

Prep Batch: 481097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total Recoverable	Water	3005A	
280-147321-2	W-3-DUP	Total Recoverable	Water	3005A	
280-147321-3	W-5B	Total Recoverable	Water	3005A	
280-147321-4	W-6	Total Recoverable	Water	3005A	
280-147321-5	W-5	Total Recoverable	Water	3005A	
280-147321-9	MW-6	Total Recoverable	Water	3005A	
MB 240-481097/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-481097/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-481097/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-147321-1 MS	W-3	Total Recoverable	Water	3005A	
280-147321-1 MSD	W-3	Total Recoverable	Water	3005A	
280-147321-2 MS	W-3-DUP	Total Recoverable	Water	3005A	
280-147321-2 MSD	W-3-DUP	Total Recoverable	Water	3005A	

Prep Batch: 481103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	7470A	
280-147321-2	W-3-DUP	Total/NA	Water	7470A	
280-147321-3	W-5B	Total/NA	Water	7470A	
280-147321-4	W-6	Total/NA	Water	7470A	
280-147321-5	W-5	Total/NA	Water	7470A	
280-147321-9	MW-6	Total/NA	Water	7470A	
MB 240-481103/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-481103/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 481152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	7470A	481103
280-147321-2	W-3-DUP	Total/NA	Water	7470A	481103
280-147321-3	W-5B	Total/NA	Water	7470A	481103
280-147321-4	W-6	Total/NA	Water	7470A	481103
280-147321-5	W-5	Total/NA	Water	7470A	481103
280-147321-9	MW-6	Total/NA	Water	7470A	481103
MB 240-481103/1-A	Method Blank	Total/NA	Water	7470A	481103
LCS 240-481103/2-A	Lab Control Sample	Total/NA	Water	7470A	481103

Prep Batch: 481292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total Recoverable	Water	3005A	
280-147321-7	W-2a	Total Recoverable	Water	3005A	
280-147321-8	MW-3	Total Recoverable	Water	3005A	
280-147321-10	MW-2B	Total Recoverable	Water	3005A	
MB 240-481292/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-481292/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-481292/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 481294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total/NA	Water	7470A	
280-147321-7	W-2a	Total/NA	Water	7470A	
280-147321-8	MW-3	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 481294 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-10	MW-2B	Total/NA	Water	7470A	
MB 240-481294/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-481294/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 481393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total Recoverable	Water	6010C	481097
280-147321-2	W-3-DUP	Total Recoverable	Water	6010C	481097
280-147321-3	W-5B	Total Recoverable	Water	6010C	481097
280-147321-4	W-6	Total Recoverable	Water	6010C	481097
280-147321-5	W-5	Total Recoverable	Water	6010C	481097
280-147321-9	MW-6	Total Recoverable	Water	6010C	481097
MB 240-481097/1-A	Method Blank	Total Recoverable	Water	6010C	481097
LCS 240-481097/2-A	Lab Control Sample	Total Recoverable	Water	6010C	481097
280-147321-1 MS	W-3	Total Recoverable	Water	6010C	481097
280-147321-1 MSD	W-3	Total Recoverable	Water	6010C	481097

Analysis Batch: 481461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total Recoverable	Water	6020A	481097
280-147321-2	W-3-DUP	Total Recoverable	Water	6020A	481097
280-147321-3	W-5B	Total Recoverable	Water	6020A	481097
280-147321-4	W-6	Total Recoverable	Water	6020A	481097
280-147321-5	W-5	Total Recoverable	Water	6020A	481097
280-147321-9	MW-6	Total Recoverable	Water	6020A	481097
MB 240-481097/1-A	Method Blank	Total Recoverable	Water	6020A	481097
LCS 240-481097/3-A	Lab Control Sample	Total Recoverable	Water	6020A	481097
280-147321-2 MS	W-3-DUP	Total Recoverable	Water	6020A	481097
280-147321-2 MSD	W-3-DUP	Total Recoverable	Water	6020A	481097

Analysis Batch: 481527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total/NA	Water	7470A	481294
280-147321-7	W-2a	Total/NA	Water	7470A	481294
280-147321-8	MW-3	Total/NA	Water	7470A	481294
280-147321-10	MW-2B	Total/NA	Water	7470A	481294
MB 240-481294/1-A	Method Blank	Total/NA	Water	7470A	481294
LCS 240-481294/2-A	Lab Control Sample	Total/NA	Water	7470A	481294

Analysis Batch: 481670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total Recoverable	Water	6010C	481292
280-147321-7	W-2a	Total Recoverable	Water	6010C	481292
280-147321-8	MW-3	Total Recoverable	Water	6010C	481292
280-147321-10	MW-2B	Total Recoverable	Water	6010C	481292
MB 240-481292/1-A	Method Blank	Total Recoverable	Water	6010C	481292
LCS 240-481292/2-A	Lab Control Sample	Total Recoverable	Water	6010C	481292

Analysis Batch: 481675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total Recoverable	Water	6020A	481097

Metals (Continued)

Analysis Batch: 481675 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-2	W-3-DUP	Total Recoverable	Water	6020A	481097
280-147321-3	W-5B	Total Recoverable	Water	6020A	481097
280-147321-4	W-6	Total Recoverable	Water	6020A	481097
280-147321-5	W-5	Total Recoverable	Water	6020A	481097
280-147321-9	MW-6	Total Recoverable	Water	6020A	481097
280-147321-2 MS	W-3-DUP	Total Recoverable	Water	6020A	481097
280-147321-2 MSD	W-3-DUP	Total Recoverable	Water	6020A	481097

Analysis Batch: 481756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total Recoverable	Water	6020A	481292
280-147321-6	W-11	Total Recoverable	Water	6020A	481292
280-147321-7	W-2a	Total Recoverable	Water	6020A	481292
280-147321-7	W-2a	Total Recoverable	Water	6020A	481292
280-147321-8	MW-3	Total Recoverable	Water	6020A	481292
280-147321-8	MW-3	Total Recoverable	Water	6020A	481292
280-147321-10	MW-2B	Total Recoverable	Water	6020A	481292
280-147321-10	MW-2B	Total Recoverable	Water	6020A	481292
MB 240-481292/1-A	Method Blank	Total Recoverable	Water	6020A	481292
LCS 240-481292/3-A	Lab Control Sample	Total Recoverable	Water	6020A	481292

Filtration Batch: 481980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	FILTRATION	

Prep Batch: 481984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	3005A	481980
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-481984/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 481985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	7470A	481980
MB 240-481985/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-481985/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 482189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	6010C	481984
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	6010C	481984
LCS 240-481984/2-A	Lab Control Sample	Total Recoverable	Water	6010C	481984

Analysis Batch: 482206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	7470A	481985
MB 240-481985/1-A	Method Blank	Total/NA	Water	7470A	481985
LCS 240-481985/2-A	Lab Control Sample	Total/NA	Water	7470A	481985

Metals

Analysis Batch: 482275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-4	W-6	Dissolved	Water	6020A	481984
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	6020A	481984
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	6020A	481984

Filtration Batch: 483391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	FILTRATION	

Prep Batch: 483392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	3005A	483391
MB 240-483392/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-483392/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-483392/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 483393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	7470A	483391
MB 240-483393/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-483393/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 483586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	7470A	483393
MB 240-483393/1-A	Method Blank	Total/NA	Water	7470A	483393
LCS 240-483393/2-A	Lab Control Sample	Total/NA	Water	7470A	483393

Analysis Batch: 483625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-483392/1-A	Method Blank	Total Recoverable	Water	6010C	483392
LCS 240-483392/2-A	Lab Control Sample	Total Recoverable	Water	6010C	483392

Analysis Batch: 483959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	6020A	483392
MB 240-483392/1-A	Method Blank	Total Recoverable	Water	6020A	483392
LCS 240-483392/3-A	Lab Control Sample	Total Recoverable	Water	6020A	483392

Analysis Batch: 483991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Dissolved	Water	6010C	483392

General Chemistry

Analysis Batch: 532382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Total/NA	Water	SM 2540C	
280-147321-8	MW-3	Total/NA	Water	SM 2540C	
MB 280-532382/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-532382/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 532397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Total/NA	Water	SM 2540D	
MB 280-532397/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-532397/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-532397/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 532455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-8	MW-3	Total/NA	Water	SM 2540D	
MB 280-532455/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-532455/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 532456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	SM 2540D	
280-147321-2	W-3-DUP	Total/NA	Water	SM 2540D	
280-147321-3	W-5B	Total/NA	Water	SM 2540D	
280-147321-4	W-6	Total/NA	Water	SM 2540D	
280-147321-7	W-2a	Total/NA	Water	SM 2540D	
280-147321-9	MW-6	Total/NA	Water	SM 2540D	
280-147321-10	MW-2B	Total/NA	Water	SM 2540D	
MB 280-532456/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-532456/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-147321-1 DU	W-3	Total/NA	Water	SM 2540D	

Analysis Batch: 532506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total/NA	Water	SM 2540D	
MB 280-532506/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-532506/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-147321-6 DU	W-11	Total/NA	Water	SM 2540D	

Analysis Batch: 532549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	9040B	
280-147321-2	W-3-DUP	Total/NA	Water	9040B	
280-147321-3	W-5B	Total/NA	Water	9040B	
280-147321-4	W-6	Total/NA	Water	9040B	
280-147321-5	W-5	Total/NA	Water	9040B	
280-147321-6	W-11	Total/NA	Water	9040B	
280-147321-7	W-2a	Total/NA	Water	9040B	
280-147321-8	MW-3	Total/NA	Water	9040B	
280-147321-9	MW-6	Total/NA	Water	9040B	
280-147321-10	MW-2B	Total/NA	Water	9040B	
LCS 280-532549/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 532686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	SM 2540C	
280-147321-2	W-3-DUP	Total/NA	Water	SM 2540C	
280-147321-3	W-5B	Total/NA	Water	SM 2540C	
280-147321-4	W-6	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 532686 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-6	W-11	Total/NA	Water	SM 2540C	
280-147321-7	W-2a	Total/NA	Water	SM 2540C	
280-147321-9	MW-6	Total/NA	Water	SM 2540C	
280-147321-10	MW-2B	Total/NA	Water	SM 2540C	
MB 280-532686/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-532686/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-147321-1 DU	W-3	Total/NA	Water	SM 2540C	

Analysis Batch: 534705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-5	W-5	Total/NA	Water	9056A	
280-147321-5	W-5	Total/NA	Water	9056A	
280-147321-5	W-5	Total/NA	Water	9056A	
MB 280-534705/6	Method Blank	Total/NA	Water	9056A	
LCS 280-534705/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-534705/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-534705/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 534952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	9056A	
280-147321-1	W-3	Total/NA	Water	9056A	
280-147321-2	W-3-DUP	Total/NA	Water	9056A	
280-147321-2	W-3-DUP	Total/NA	Water	9056A	
280-147321-3	W-5B	Total/NA	Water	9056A	
280-147321-3	W-5B	Total/NA	Water	9056A	
280-147321-4	W-6	Total/NA	Water	9056A	
280-147321-4	W-6	Total/NA	Water	9056A	
280-147321-6	W-11	Total/NA	Water	9056A	
280-147321-6	W-11	Total/NA	Water	9056A	
280-147321-7	W-2a	Total/NA	Water	9056A	
280-147321-7	W-2a	Total/NA	Water	9056A	
280-147321-8	MW-3	Total/NA	Water	9056A	
280-147321-8	MW-3	Total/NA	Water	9056A	
280-147321-9	MW-6	Total/NA	Water	9056A	
280-147321-9	MW-6	Total/NA	Water	9056A	
280-147321-10	MW-2B	Total/NA	Water	9056A	
280-147321-10	MW-2B	Total/NA	Water	9056A	
MB 280-534952/6	Method Blank	Total/NA	Water	9056A	
LCS 280-534952/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-534952/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-534952/3	Lab Control Sample	Total/NA	Water	9056A	
280-147321-9 MS	MW-6	Total/NA	Water	9056A	
280-147321-9 MSD	MW-6	Total/NA	Water	9056A	
280-147321-9 DU	MW-6	Total/NA	Water	9056A	

Analysis Batch: 535621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-8	MW-3	Total/NA	Water	9056A	
MB 280-535621/6	Method Blank	Total/NA	Water	9056A	
LCS 280-535621/4	Lab Control Sample	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 535621 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-535621/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-535621/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-3
Lab Sample ID: 280-147321-1
Date Collected: 04/09/21 08:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 13:16	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 14:53	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 12:47	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:30	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:12	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534952	05/06/21 02:34	JMB	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	534952	05/06/21 03:04	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: W-3-DUP
Lab Sample ID: 280-147321-2
Date Collected: 04/09/21 08:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 13:38	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 14:55	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 12:49	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:32	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:15	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534952	05/06/21 03:49	JMB	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	534952	05/06/21 04:03	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: W-5B
Lab Sample ID: 280-147321-3
Date Collected: 04/09/21 11:05
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 13:43	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 15:08	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 13:09	DTN	TAL CAN

Client Sample ID: W-5B
Lab Sample ID: 280-147321-3
Date Collected: 04/09/21 11:05
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:34	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:19	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534952	05/06/21 04:18	JMB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	534952	05/06/21 04:33	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: W-6
Lab Sample ID: 280-147321-4
Date Collected: 04/09/21 16:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	481980	04/20/21 14:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			482189	04/21/21 23:43	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 13:56	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	481980	04/20/21 14:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			482275	04/21/21 14:31	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 15:10	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 13:12	DTN	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	481980	04/20/21 14:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			482206	04/21/21 15:32	SLD	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:36	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:23	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534952	05/06/21 04:48	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	534952	05/06/21 05:18	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: W-5
Lab Sample ID: 280-147321-5
Date Collected: 04/06/21 16:30
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	483391	04/29/21 10:48	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	483392	04/29/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		1			483991	05/03/21 11:43	KLC	TAL CAN

Client Sample ID: W-5
Lab Sample ID: 280-147321-5

Date Collected: 04/06/21 16:30
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 14:00	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	483391	04/29/21 10:48	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	483392	04/29/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		1			483959	05/03/21 20:24	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 15:13	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 13:14	DTN	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	483391	04/29/21 10:48	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	483393	04/29/21 14:00	MRL	TAL CAN
Dissolved	Analysis	7470A		1			483586	04/30/21 17:30	SLD	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:38	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:26	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534705	05/04/21 04:04	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	534705	05/04/21 04:18	CJ	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	534705	05/04/21 05:00	CJ	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532382	04/13/21 14:33	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532397	04/13/21 15:32	LEB	TAL DEN

Client Sample ID: W-11
Lab Sample ID: 280-147321-6

Date Collected: 04/09/21 15:35
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481670	04/16/21 15:31	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			481756	04/19/21 18:39	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481756	04/19/21 18:54	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481294	04/15/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481527	04/15/21 14:42	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:30	QJB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	534952	05/06/21 07:03	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	534952	05/06/21 07:18	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532506	04/14/21 12:51	LEB	TAL DEN

Client Sample ID: W-2a
Lab Sample ID: 280-147321-7
Date Collected: 04/09/21 12:00
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481670	04/16/21 15:36	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			481756	04/19/21 18:41	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481756	04/19/21 18:56	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481294	04/15/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481527	04/15/21 14:45	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:34	QJB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	534952	05/06/21 06:18	JMB	TAL DEN
Total/NA	Analysis	9056A		1000	5 mL	5 mL	534952	05/06/21 06:33	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: MW-3
Lab Sample ID: 280-147321-8
Date Collected: 04/08/21 17:45
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481670	04/16/21 15:40	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			481756	04/19/21 18:44	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481756	04/19/21 18:59	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481294	04/15/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481527	04/15/21 14:47	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:38	QJB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	535621	05/11/21 06:21	CJ	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	534952	05/06/21 10:09	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	534952	05/06/21 10:24	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532382	04/13/21 14:33	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532455	04/14/21 09:04	LEB	TAL DEN

Client Sample ID: MW-6
Lab Sample ID: 280-147321-9
Date Collected: 04/09/21 09:15
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481393	04/15/21 14:10	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			481461	04/15/21 15:23	DTN	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-6
Lab Sample ID: 280-147321-9
Date Collected: 04/09/21 09:15
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481097	04/14/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481675	04/16/21 13:19	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481103	04/14/21 11:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481152	04/14/21 17:47	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:41	QJB	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	534952	05/06/21 07:32	JMB	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	534952	05/06/21 09:02	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Client Sample ID: MW-2B
Lab Sample ID: 280-147321-10
Date Collected: 04/09/21 16:25
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			481670	04/16/21 15:45	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			481756	04/19/21 18:46	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481292	04/15/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			481756	04/19/21 19:02	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481294	04/15/21 12:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			481527	04/15/21 14:49	SLD	TAL CAN
Total/NA	Analysis	9040B		1			532549	04/14/21 16:45	QJB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	534952	05/06/21 10:53	JMB	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	534952	05/06/21 11:08	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532686	04/15/21 14:42	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	532456	04/14/21 09:05	LEB	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147321-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: Tara Kent, Austin Morgan	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 7209337496	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:	Analysis Requested		
City: Englewood	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; 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, Z - other (specify)
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			Other:
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			App IV analysis
Site: Colorado Groundwater- CCR	SSOW#:			Special Instructions/Note:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+iv, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers
			Preservation Code:				N	D	N	N	D	
~~W-1 TK~~ W-3	4/9/2021	0840	G	Water	N	N	X	X	X	X	X	6
~~W-20 TK~~ W-3-DUP	4/9/2021	0840	G	Water	N	N	X	X	X	X	X	6
~~W-2A0 TK~~ W-5B	4/9/2021	1105	G	Water	N	N	X	X	X	X	X	6
~~W-3 TK~~ W-6	4/9/2021	1640	G	Water	N	N	X	X	X	X	X	7
~~W-4 TK~~ W-5	4/6/2021	1630	G	Water	N	N	X	X	X	X	X	7
~~W-5 TK~~ W-11	4/9/2021	1535	G	Water	N	N	X	X	X	X	X	6
~~W-6 TK~~ W-2A	4/9/2021	1200	G	Water	N	N	X	X	X	X	X	6
~~W-7 TK~~ MW-3	4/8/2021	1745	G	Water	N	N	X	X	X	X	X	6
~~W-8A TK~~ MW-6	4/9/2021	0915	G	Water	N	N	X	X	X	X	X	6
~~MW-1 TK~~ MW-2B	4/9/2021	1625	G	Water	N	N	X	X	X	X	X	6
~~MW-1B TK~~				Water								

these 2 samples need to be filtered for diss. metals

280-147321 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological
Deliverable Requested: I, II, III, IV, Other (specify)

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:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Tara Kent	Date/Time: 4/12/2021 0835	Company	Received by:	Date/Time: 4/12/2021 0835	Company TA Denver
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 4.6C, 0.9C, 2.8C, 4.6C CF +0.4C IR#9		

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

3.3/3.4

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563343.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147321-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/3/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S25

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	6010C/FIELD_FLTRD (MOD) Boron	6020A/FIELD_FLTRD 13 Total Metals (w/collision cell) - SUB	7470A/FIELD_FLTRD Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
W-3 (280-147321-1)	4/9/21	08:40 Mountain		Water			X	X	X				1	Use Collision Cell
W-3-DUP (280-147321-2)	4/9/21	08:40 Mountain		Water			X	X	X				1	Use Collision Cell
W-5B (280-147321-3)	4/9/21	11:05 Mountain		Water			X	X	X				1	Use Collision Cell
W-6 (280-147321-4)	4/9/21	16:40 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-5 (280-147321-5)	4/6/21	16:30 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-11 (280-147321-6)	4/9/21	15:35 Mountain		Water			X	X	X				1	Use Collision Cell
W-2a (280-147321-7)	4/9/21	12:00 Mountain		Water			X	X	X				1	Use Collision Cell
MW-3 (280-147321-8)	4/8/21	17:45 Mountain		Water			X	X	X				1	Use Collision Cell
MW-6 (280-147321-9)	4/9/21	09:15 Mountain		Water			X	X	X				1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/12/21 1510		[signature]	4-13-21 1420	FTA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 11/01/2020

5/13/2021

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

3.31.94

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563343.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147321-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/3/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S25

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	6010C/FIELD_FLTRD (MOD) Boron	6020A/FIELD_FLTRD 13 Total Metals (w/collision cell) SUB	7470A/FIELD_FLTRD Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
MW-2B (280-147321-10)	4/9/21	16:25 Mountain		Water			X	X	X				1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/12/21 1510		[signature]	4-13-21 1400	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :**_____
Canton Facility

Client ETA Site Name_____ Cooler unpacked by: Matt Snyder

Cooler Received on 4-13-21 Opened on 4-13-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other_____

Receipt After-hours: Drop-off Date/Time_____ Storage Location_____

TestAmerica Cooler # 3B Foam Box Client Cooler Box Other_____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other_____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 3.3 °C Corrected Cooler Temp. 3.4 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp._____ °C Corrected Cooler Temp._____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes (No)
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N) # of containers (Y/N), and sample type of grab/comp(Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? (Yes) No
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC022887**
14. Were VOAs on the COC? Yes No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes No
17. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563628.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147321-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/2/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	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)	7470A/FILTRATION Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:						W131
W-6 (280-147321-4)	4/9/21	16:40 Mountain		Water			X	1	
280-147321-5							X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/14/21 1430		[signature]	4-15-21 840	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client Denver Site Name _____ Cooler unpacked by:

Cooler Received on 4-15-21 Opened on 4-15-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 2.6 °C Corrected Cooler Temp. 2.7 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/(N)), # of containers (Y/N), and sample type of grab/comp(Y/(N))?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA
14. Were VOAs on the COC?	Yes	(No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	(No) NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

pH Strip Lot# **HC022887**

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147321-1

Login Number: 147321
List Number: 1
Creator: Hall, Scott R

List Source: Eurofins TestAmerica, Denver

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.	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?	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.	False	Dissolved Metals HNO3 preserved but not Field Filtered
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	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147321-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche
Revision: 1

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
5/27/2021 4:22:25 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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

Job ID: 280-147321-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147321-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/12/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.3º C, 3.2º C, 5.0º C and 5.0º C.

This report contains the Radioactive analyses. All other analyses are reported under jobs 280-147321-1 and 280-147321-3.

RADIUM-226 (GFPC) - Method 9315
The following samples were prepared at a reduced aliquot due to Matrix: W-3 (280-147321-1), W-3-DUP (280-147321-2), W-5B (280-147321-3), W-6 (280-147321-4), W-5 (280-147321-5), W-11 (280-147321-6), W-2a (280-147321-7), MW-3 (280-147321-8) and MW-2B (280-147321-10).

The method 9315 MS/MSD could not be performed, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-228- Method 9320
The following samples were prepared at a reduced aliquot due to Matrix: W-3 (280-147321-1), W-3-DUP (280-147321-2), W-5B (280-147321-3), W-6 (280-147321-4), W-5 (280-147321-5), W-11 (280-147321-6), W-2a (280-147321-7), MW-3 (280-147321-8) and MW-2B (280-147321-10).

The method 9320 MS/MSD could not be performed, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

REVISION
The report has been revised to include the correct intercompany workshare chain of custody that was originally missing a signature from the receiving laboratory.

Job ID: 280-147321-2 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

Detection Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-3 — Lab Sample ID: 280-147321-1

No Detections.

Client Sample ID: W-3-DUP — Lab Sample ID: 280-147321-2

No Detections.

Client Sample ID: W-5B — Lab Sample ID: 280-147321-3

No Detections.

Client Sample ID: W-6 — Lab Sample ID: 280-147321-4

No Detections.

Client Sample ID: W-5 — Lab Sample ID: 280-147321-5

No Detections.

Client Sample ID: W-11 — Lab Sample ID: 280-147321-6

No Detections.

Client Sample ID: W-2a — Lab Sample ID: 280-147321-7

No Detections.

Client Sample ID: MW-3 — Lab Sample ID: 280-147321-8

No Detections.

Client Sample ID: MW-6 — Lab Sample ID: 280-147321-9

No Detections.

Client Sample ID: MW-2B — Lab Sample ID: 280-147321-10

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147321-1	W-3	Water	04/09/21 08:40	04/12/21 08:35	
280-147321-2	W-3-DUP	Water	04/09/21 08:40	04/12/21 08:35	
280-147321-3	W-5B	Water	04/09/21 11:05	04/12/21 08:35	
280-147321-4	W-6	Water	04/09/21 16:40	04/12/21 08:35	
280-147321-5	W-5	Water	04/06/21 16:30	04/12/21 08:35	
280-147321-6	W-11	Water	04/09/21 15:35	04/12/21 08:35	
280-147321-7	W-2a	Water	04/09/21 12:00	04/12/21 08:35	
280-147321-8	MW-3	Water	04/08/21 17:45	04/12/21 08:35	
280-147321-9	MW-6	Water	04/09/21 09:15	04/12/21 08:35	
280-147321-10	MW-2B	Water	04/09/21 16:25	04/12/21 08:35	

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0172	U	0.113	0.113	1.00	0.225	pCi/L	04/21/21 11:46	05/14/21 10:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:08*	*1*

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.117	U	0.144	0.144	1.00	0.237	pCi/L	04/21/21 11:46	05/14/21 10:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:08*	*1*

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.445**		0.197	0.201	1.00	0.222	pCi/L	04/21/21 11:46	05/14/21 10:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:08*	*1*

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.376	U	0.267	0.269	1.00	0.380	pCi/L	04/21/21 11:46	05/14/21 10:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:09*	*1*

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.380**		0.221	0.223	1.00	0.297	pCi/L	04/21/21 11:46	05/14/21 10:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.5*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:09*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.72		0.351	0.384	1.00	0.217	pCi/L	04/21/21 11:46	05/14/21 10:09	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.2		40 - 110	04/21/21 11:46	05/14/21 10:09	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.31		0.306	0.328	1.00	0.207	pCi/L	04/21/21 11:46	05/14/21 10:09	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		40 - 110	04/21/21 11:46	05/14/21 10:09	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.14		0.334	0.350	1.00	0.314	pCi/L	04/21/21 11:46	05/14/21 10:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.0		40 - 110	04/21/21 11:46	05/14/21 10:10	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.374		0.140	0.144	1.00	0.136	pCi/L	04/21/21 11:46	05/14/21 10:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110	04/21/21 11:46	05/14/21 10:10	1

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.938		0.285	0.297	1.00	0.260	pCi/L	04/21/21 11:46	05/14/21 10:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		40 - 110	04/21/21 11:46	05/14/21 10:10	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.177	U	0.332	0.332	1.00	0.563	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*85.5*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*
Y Carrier	*99.4*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.483	U	0.351	0.354	1.00	0.548	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.5*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*
Y Carrier	*86.7*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.20**		0.427	0.441	1.00	0.578	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*
Y Carrier	*85.2*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.262	U	0.476	0.477	1.00	0.908	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.4*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*
Y Carrier	*86.4*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:07*	*1*

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.724**		0.463	0.467	1.00	0.711	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	75.5		40 - 110	04/21/21 12:14	05/11/21 13:07	1
Y Carrier	84.1		40 - 110	04/21/21 12:14	05/11/21 13:07	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.10		0.526	0.560	1.00	0.640	pCi/L	04/21/21 12:14	05/11/21 13:07	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.2		40 - 110	04/21/21 12:14	05/11/21 13:07	1
Y Carrier	85.6		40 - 110	04/21/21 12:14	05/11/21 13:07	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.43		0.517	0.563	1.00	0.576	pCi/L	04/21/21 12:14	05/11/21 13:08	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.9		40 - 110	04/21/21 12:14	05/11/21 13:08	1
Y Carrier	86.7		40 - 110	04/21/21 12:14	05/11/21 13:08	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.21		0.522	0.534	1.00	0.742	pCi/L	04/21/21 12:14	05/11/21 13:08	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.0		40 - 110	04/21/21 12:14	05/11/21 13:08	1
Y Carrier	81.1		40 - 110	04/21/21 12:14	05/11/21 13:08	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.267	U	0.228	0.229	1.00	0.362	pCi/L	04/21/21 12:14	05/11/21 13:08	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.9		40 - 110	04/21/21 12:14	05/11/21 13:08	1
Y Carrier	87.9		40 - 110	04/21/21 12:14	05/11/21 13:08	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35

Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**3.22**		0.591	0.661	1.00	0.614	pCi/L	04/21/21 12:14	05/11/21 13:08	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:08*	*1*
Y Carrier	*84.5*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:08*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-3
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35

Lab Sample ID: 280-147321-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.194	U	0.351	0.351	5.00	0.563	pCi/L		05/15/21 00:04	1

Client Sample ID: W-3-DUP
Date Collected: 04/09/21 08:40
Date Received: 04/12/21 08:35

Lab Sample ID: 280-147321-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.600**		0.379	0.382	5.00	0.548	pCi/L		05/15/21 00:04	1

Client Sample ID: W-5B
Date Collected: 04/09/21 11:05
Date Received: 04/12/21 08:35

Lab Sample ID: 280-147321-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.65**		0.470	0.485	5.00	0.578	pCi/L		05/15/21 00:04	1

Client Sample ID: W-6
Date Collected: 04/09/21 16:40
Date Received: 04/12/21 08:35

Lab Sample ID: 280-147321-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.114	U	0.546	0.548	5.00	0.908	pCi/L		05/15/21 00:04	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-5
Date Collected: 04/06/21 16:30
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.10		0.513	0.518	5.00	0.711	pCi/L		05/15/21 00:04	1

Client Sample ID: W-11
Date Collected: 04/09/21 15:35
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.82		0.632	0.679	5.00	0.640	pCi/L		05/15/21 00:04	1

Client Sample ID: W-2a
Date Collected: 04/09/21 12:00
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.75		0.601	0.652	5.00	0.576	pCi/L		05/15/21 00:04	1

Client Sample ID: MW-3
Date Collected: 04/08/21 17:45
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.35		0.620	0.638	5.00	0.742	pCi/L		05/15/21 00:04	1

Client Sample ID: MW-6
Date Collected: 04/09/21 09:15
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.641		0.268	0.271	5.00	0.362	pCi/L		05/15/21 00:04	1

Client Sample ID: MW-2B
Date Collected: 04/09/21 16:25
Date Received: 04/12/21 08:35
Lab Sample ID: 280-147321-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.16		0.656	0.725	5.00	0.614	pCi/L		05/15/21 00:04	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-506428/23-A
Matrix: Water
Analysis Batch: 509542

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506428

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03009	U	0.108	0.109	1.00	0.209	pCi/L	04/21/21 11:46	05/14/21 10:14	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*40 - 110*	*04/21/21 11:46*	*05/14/21 10:14*	*1*

Lab Sample ID: LCS 160-506428/1-A
Matrix: Water
Analysis Batch: 509878

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506428

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	15.13		1.68	1.00	0.225	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.8*		*40 - 110*

Lab Sample ID: LCSD 160-506428/2-A
Matrix: Water
Analysis Batch: 509878

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506428

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	14.16		1.59	1.00	0.239	pCi/L	94	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-506432/23-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506432

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3546	U	0.394	0.395	1.00	0.646	pCi/L	04/21/21 12:14	05/11/21 13:10	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.5*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:10*	*1*
Y Carrier	*81.9*		*40 - 110*	*04/21/21 12:14*	*05/11/21 13:10*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-506432/1-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506432

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.63	11.05		1.32	1.00	0.548	pCi/L	115	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.8*		*40 - 110*
Y Carrier	*103*		*40 - 110*

Lab Sample ID: LCSD 160-506432/2-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506432

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.63	9.195		1.15	1.00	0.512	pCi/L	96	75 - 125	0.75	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*83.6*		*40 - 110*
Y Carrier	*107*		*40 - 110*

QC Association Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 506428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	PrecSep-21	
280-147321-2	W-3-DUP	Total/NA	Water	PrecSep-21	
280-147321-3	W-5B	Total/NA	Water	PrecSep-21	
280-147321-4	W-6	Total/NA	Water	PrecSep-21	
280-147321-5	W-5	Total/NA	Water	PrecSep-21	
280-147321-6	W-11	Total/NA	Water	PrecSep-21	
280-147321-7	W-2a	Total/NA	Water	PrecSep-21	
280-147321-8	MW-3	Total/NA	Water	PrecSep-21	
280-147321-9	MW-6	Total/NA	Water	PrecSep-21	
280-147321-10	MW-2B	Total/NA	Water	PrecSep-21	
MB 160-506428/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506428/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506428/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147321-1	W-3	Total/NA	Water	PrecSep_0	
280-147321-2	W-3-DUP	Total/NA	Water	PrecSep_0	
280-147321-3	W-5B	Total/NA	Water	PrecSep_0	
280-147321-4	W-6	Total/NA	Water	PrecSep_0	
280-147321-5	W-5	Total/NA	Water	PrecSep_0	
280-147321-6	W-11	Total/NA	Water	PrecSep_0	
280-147321-7	W-2a	Total/NA	Water	PrecSep_0	
280-147321-8	MW-3	Total/NA	Water	PrecSep_0	
280-147321-9	MW-6	Total/NA	Water	PrecSep_0	
280-147321-10	MW-2B	Total/NA	Water	PrecSep_0	
MB 160-506432/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506432/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506432/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-3
Lab Sample ID: 280-147321-1
Date Collected: 04/09/21 08:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.3 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.3 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: W-3-DUP
Lab Sample ID: 280-147321-2
Date Collected: 04/09/21 08:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.0 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.0 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: W-5B
Lab Sample ID: 280-147321-3
Date Collected: 04/09/21 11:05
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.6 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:08	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.6 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: W-6
Lab Sample ID: 280-147321-4
Date Collected: 04/09/21 16:40
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.1 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:09	ANW	TAL SL
Total/NA	Prep	PrecSep_0			500.1 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-5
Lab Sample ID: 280-147321-5
Date Collected: 04/06/21 16:30
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.3 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:09	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.3 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: W-11
Lab Sample ID: 280-147321-6
Date Collected: 04/09/21 15:35
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.3 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:09	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.3 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:07	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: W-2a
Lab Sample ID: 280-147321-7
Date Collected: 04/09/21 12:00
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.1 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:09	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.1 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:08	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: MW-3
Lab Sample ID: 280-147321-8
Date Collected: 04/08/21 17:45
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.4 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:10	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.4 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:08	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-6
Lab Sample ID: 280-147321-9
Date Collected: 04/09/21 09:15
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.2 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:10	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.2 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:08	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Client Sample ID: MW-2B
Lab Sample ID: 280-147321-10
Date Collected: 04/09/21 16:25
Matrix: Water
Date Received: 04/12/21 08:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.2 mL	1.0 g	506428	04/21/21 11:46	RBR	TAL SL
Total/NA	Analysis	9315		1			509878	05/14/21 10:10	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.2 mL	1.0 g	506432	04/21/21 12:14	RBR	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 13:08	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			509879	05/15/21 00:04	SCB	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

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Client Information	Sampler: Tara Kent, Austin Morgan	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 7209337496	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:	Analysis Requested		
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				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; 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, Z - other (specify)
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			Other:
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			App IV analysis
Site: Colorado Groundwater- CCR	SSOW#:			Special Instructions/Note:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+iv, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note
			Preservation Code:				N	D	N	N	D		
~~W-1~~ TK W-3	4/9/2021	0840	G	Water	N	N	X	X	X	X	X	6	
~~W-2~~ TK W-3-DUP	4/9/2021	0840	G	Water	N	N	X	X	X	X	X	6	
~~W-2A~~ TK W-5B	4/9/2021	1105	G	Water	N	N	X	X	X	X	X	6	
~~W-3~~ TK W-6	4/9/2021	1640	G	Water	N	N	X	X	X	X	X	7	these 2 samples need to be filtered for diss. metals
~~W-4~~ TK W-5	4/6/2021	1630	G	Water	N	N	X	X	X	X	X	7	
~~W-5~~ TK W-11	4/9/2021	1535	G	Water	N	N	X	X	X	X	X	6	
~~W-6~~ TK W-2A	4/9/2021	1200	G	Water	N	N	X	X	X	X	X	6	
~~W-7~~ TK MW-3	4/8/2021	1745	G	Water	N	N	X	X	X	X	X	6	
~~W-8A~~ TK MW-6	4/9/2021	0915	G	Water	N	N	X	X	X	X	X	6	
~~MW-1~~ TK MW-2B	4/9/2021	1625	G	Water	N	N	X	X	X	X	X	6	
~~MW-1B~~ TK				Water									

280-147321 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Deliverable Requested: I, II, III, IV, Other (specify)

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:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:		
Relinquished by: Tara Kent	Date/Time: 4/12/2021 0835	Company	Received by:	Date/Time: 4/12/2021 0835	Company TA Denver	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
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: 4.6C, 0.9C, 2.8C, 4.6C CF +0.4C IR#9			

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563344.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147321-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/11/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
W-3 (280-147321-1)	4/9/21	08:40 Mountain		Water			X	X	2	
W-3-DUP (280-147321-2)	4/9/21	08:40 Mountain		Water			X	X	2	
W-5B (280-147321-3)	4/9/21	11:05 Mountain		Water			X	X	2	
W-6 (280-147321-4)	4/9/21	16:40 Mountain		Water			X	X	2	
W-5 (280-147321-5)	4/6/21	16:30 Mountain		Water			X	X	2	
W-11 (280-147321-6)	4/9/21	15:35 Mountain		Water			X	X	2	
W-2a (280-147321-7)	4/9/21	12:00 Mountain		Water			X	X	2	
MW-3 (280-147321-8)	4/8/21	17:45 Mountain		Water			X	X	2	
MW-6 (280-147321-9)	4/9/21	09:15 Mountain		Water			X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

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:

Empty Kit Relinquished by: Date: Time:

Method of Shipment:

	Date/Time	Company		Date/Time	Company
Relinquished by: [signature]	4/12/21 1435		Received by: FED EX		
Relinquished by: FED EX			Received by: MichaKonuhinger	04/13/2021 09:25	ETA STL
Relinquished by:			Received by:		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563344.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147321-2
Address: 13715 Rider Trail North,	Due Date Requested: 5/11/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8568(Tel) 314-298-8757(Fax)	PO #:			
Email	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-2B (280-147321-10)	4/9/21	16:25 Mountain		Water			X	X	2	

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, 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, Z - other (specify)
Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ 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:	Date/Time: 4/12/21 1435	Company	Received by: FED EX	Date/Time:	Company	
Relinquished by: FED EX	Date/Time:	Company	Received by: MichaKonierunger	Date/Time: 04/13/2021 09:25	Company ETA STL	
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:			

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147321-2

Login Number: 147321
List Number: 1
Creator: Hall, Scott R

List Source: Eurofins TestAmerica, Denver

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.	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?	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.	False	Dissolved Metals HNO3 preserved but not Field Filtered
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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147321-2

Login Number: 147321
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/13/21 11:27 AM

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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-147321-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-147321-1	W-3	85.5
280-147321-2	W-3-DUP	91.5
280-147321-3	W-5B	89.1
280-147321-4	W-6	82.4
280-147321-5	W-5	75.5
280-147321-6	W-11	81.2
280-147321-7	W-2a	83.9
280-147321-8	MW-3	73.0
280-147321-9	MW-6	93.9
280-147321-10	MW-2B	82.1
LCS 160-506428/1-A	Lab Control Sample	84.8
LCSD 160-506428/2-A	Lab Control Sample Dup	83.6
MB 160-506428/23-A	Method Blank	84.5

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-147321-1	W-3	85.5	99.4
280-147321-2	W-3-DUP	91.5	86.7
280-147321-3	W-5B	89.1	85.2
280-147321-4	W-6	82.4	86.4
280-147321-5	W-5	75.5	84.1
280-147321-6	W-11	81.2	85.6
280-147321-7	W-2a	83.9	86.7
280-147321-8	MW-3	73.0	81.1
280-147321-9	MW-6	93.9	87.9
280-147321-10	MW-2B	82.1	84.5
LCS 160-506432/1-A	Lab Control Sample	84.8	103
LCSD 160-506432/2-A	Lab Control Sample Dup	83.6	107
MB 160-506432/23-A	Method Blank	84.5	81.9

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147426-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche
Revision: 1

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
6/22/2021 8:10:36 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-147426-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147426-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/14/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.6º C, 1.1º C and 1.8º C.

DISSOLVED METALS- Method 6010C/6020A/7470A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- Method 6010C/6020A/7470A
Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

Low levels of Lithium are present in the method blank associated with QC batch 280-484359. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GENERAL CHEMISTRY- VARIOUS METHODS
Several samples required dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

Due to inital results being outside of historical limits , the holding time for 2540C Total Dissolved Solids for sample MW-4B expired prior to analysis. The sample was originally analyzed within holding time. Both results are being reported.

The accuracy and precision of the Chloride MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Laboratory generated MS/MSD analysis data have been provided. The Sulfate MS/MSD for method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The Total Suspended Solids sample duplicate analysis data was performed on sample W-7 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Job ID: 280-147426-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

The pH sample duplicate analysis data was performed on sample EB-01 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

REVISION
Per client, sample ID MW-10B should be W-10B. The report has been revised.

Detection Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7
Lab Sample ID: 280-147426-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.4		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	4.8		0.10	0.023	mg/L	1		6010C	Dissolved
Arsenic	0.016		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.013		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	220		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0052		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.017		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0045	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00082	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	2.0		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0044		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.9		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.014		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	410		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.0053		0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.019		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.0046	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Lead	0.00060	J	0.0010	0.00045	mg/L	1		6020A	Dissolved
Selenium	1.9		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	3.9	B	0.0080	0.0017	mg/L	1		6020A	Dissolved
Thallium	0.0045		0.0010	0.00020	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	780		30	10	mg/L	10		9056A	Total/NA
Sulfate	39000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	66000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	56		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-12
Lab Sample ID: 280-147426-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00064	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Barium	0.013		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	350		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0011		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.029		0.0010	0.00019	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-12 (Continued)
Lab Sample ID: 280-147426-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.00098	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0039	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.022		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0036		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.0		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	870		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.77		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	17000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	23000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	22		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-5
Lab Sample ID: 280-147426-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	2.6		0.10	0.023	mg/L	1		6010C	Dissolved
Antimony	0.0010	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0024	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.023		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	370		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00064	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0020		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0065		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.010		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.13		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0018		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.0		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.0017	J	0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	420		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.00076	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.0020		0.0010	0.00019	mg/L	1		6020A	Dissolved
Chromium	0.0021		0.0020	0.00098	mg/L	1		6020A	Dissolved
Molybdenum	0.0094	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Antimony	0.00087	J	0.0020	0.00057	mg/L	1		6020A	Dissolved
Selenium	0.13		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	2.8	B	0.0080	0.0017	mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-5 (Continued) — Lab Sample ID: 280-147426-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.0020		0.0010	0.00020	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1600		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.81		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	19000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	28000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	32		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 280-147426-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.010	J	0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	6.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	7.0	J	10	4.7	mg/L	1		SM 2540C	Total/NA

Client Sample ID: MW-1B — Lab Sample ID: 280-147426-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00064	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0030	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.012		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	380		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0026		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.028		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0021		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0042	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.55		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0026		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.5		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	360		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.38	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	16000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	25000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	27		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1B-DUP
Lab Sample ID: 280-147426-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00059	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.0051		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.011		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	370		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0028		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.028		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0012	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0041	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.52		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0026		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.4		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	370		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.38	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	16000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	22000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	18		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-4B
Lab Sample ID: 280-147426-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.49		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00060	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.010		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.021		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	510		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00022	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0041		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0012	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.015		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.8		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00038	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-4B (Continued)
Lab Sample ID: 280-147426-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.66		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	200		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.39	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2900		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	5100		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS) - RA	6300	H	1000	470	mg/L	1		SM 2540C	Total/NA

Client Sample ID: W-10B
Lab Sample ID: 280-147426-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	5.3		0.10	0.023	mg/L	1		6010C	Dissolved
Antimony	0.00064	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.046		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.028		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	370		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00044	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0040		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0068		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0056	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.0013		0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	6.5		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0042		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	4.5		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.051		0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.018		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	240		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.00038	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.0053		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.0052	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Antimony	0.00058	J	0.0020	0.00057	mg/L	1		6020A	Dissolved
Selenium	7.1		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	3.6	B	0.0080	0.0017	mg/L	1		6020A	Dissolved
Thallium	0.0049		0.0010	0.00020	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1100		30	10	mg/L	10		9056A	Total/NA
Sulfate	60000		2500	520	mg/L	500		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-10B (Continued)
Lab Sample ID: 280-147426-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids (TDS)	79000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	55		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN

Protocol References:

None = None

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147426-1	W-7	Water	04/12/21 16:25	04/14/21 16:25	
280-147426-2	W-12	Water	04/12/21 14:20	04/14/21 16:25	
280-147426-3	MW-5	Water	04/12/21 17:00	04/14/21 16:25	
280-147426-4	EB-01	Water	04/12/21 17:10	04/14/21 16:25	
280-147426-5	MW-1B	Water	04/13/21 09:25	04/14/21 16:25	
280-147426-6	MW-1B-DUP	Water	04/13/21 08:25	04/14/21 16:25	
280-147426-7	MW-4B	Water	04/13/21 14:00	04/14/21 16:25	
280-147426-8	W-10B	Water	04/13/21 15:45	04/14/21 16:25	

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.4		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 22:45	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 22:54	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.3		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 22:59	1

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:08	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:12	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:17	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:30	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.9		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 23:34	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	4.8		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:13	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.6**		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:17	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.3**		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:22	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:33	1
Arsenic	**0.016**		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:33	1
Barium	**0.013**		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:33	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:33	1
Calcium	**220**		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:33	1
Cadmium	**0.0052**		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:33	1
Cobalt	**0.017**		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:33	1
Chromium	ND		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:33	1
Molybdenum	**0.0045**	**J**	0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:33	1
Lead	**0.00082**	**J**	0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:33	1
Selenium	**2.0**		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:33	1
Thallium	**0.0044**		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:33	1
Lithium	**3.9**		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 13:38	5

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00064**	**J**	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:39	1
Arsenic	ND		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:39	1
Barium	**0.013**		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:39	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:39	1
Calcium	**350**		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:39	1
Cadmium	**0.0011**		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:39	1
Cobalt	**0.029**		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:39	1
Chromium	**0.00098**	**J**	0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:39	1
Molybdenum	**0.0039**	**J**	0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:39	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:39	1
Selenium	**0.022**		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:39	1
Thallium	**0.0036**		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:39	1
Lithium	**2.0**		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 13:43	5

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0010**	**J**	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:41	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0024	J	0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:41	1
Barium	0.023		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:41	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:41	1
Calcium	370		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:41	1
Cadmium	0.00064	J	0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:41	1
Cobalt	0.0020		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:41	1
Chromium	0.0065		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:41	1
Molybdenum	0.010		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:41	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:41	1
Selenium	0.13		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:41	1
Thallium	0.0018		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:41	1
Lithium	3.0		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 13:46	5

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:46	1
Arsenic	ND		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:46	1
Barium	ND		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:46	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:46	1
Calcium	ND		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:46	1
Cadmium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:46	1
Cobalt	ND		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:46	1
Chromium	ND		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:46	1
Molybdenum	ND		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:46	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:46	1
Selenium	ND		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:46	1
Thallium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:46	1
Lithium	0.010	J	0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 13:56	5

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00064	J	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:49	1
Arsenic	0.0030	J	0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:49	1
Barium	0.012		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:49	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:49	1
Calcium	380		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:49	1
Cadmium	0.0026		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:49	1
Cobalt	0.028		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:49	1
Chromium	0.0021		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:49	1
Molybdenum	0.0042	J	0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:49	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:49	1
Selenium	0.55		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:49	1
Thallium	0.0026		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:49	1
Lithium	2.5		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 13:58	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00059	J	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:52	1
Arsenic	0.0051		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:52	1
Barium	0.011		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:52	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:52	1
Calcium	370		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:52	1
Cadmium	0.0028		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:52	1
Cobalt	0.028		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:52	1
Chromium	0.0012	J	0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:52	1
Molybdenum	0.0041	J	0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:52	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:52	1
Selenium	0.52		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:52	1
Thallium	0.0026		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:52	1
Lithium	2.4		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 14:01	5

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00060	J	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 19:54	1
Arsenic	0.010		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 19:54	1
Barium	0.021		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 19:54	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 19:54	1
Calcium	510		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 19:54	1
Cadmium	0.00022	J	0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:54	1
Cobalt	0.0041		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 19:54	1
Chromium	0.0012	J	0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 19:54	1
Molybdenum	0.015		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 19:54	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 19:54	1
Selenium	1.8		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 19:54	1
Thallium	0.00038	J	0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 19:54	1
Lithium	0.66		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 14:03	5

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00064	J	0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 20:02	1
Arsenic	0.046		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 20:02	1
Barium	0.028		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 20:02	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 20:02	1
Calcium	370		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 20:02	1
Cadmium	0.00044	J	0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 20:02	1
Cobalt	0.0040		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 20:02	1
Chromium	0.0068		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 20:02	1
Molybdenum	0.0056	J	0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 20:02	1
Lead	0.0013		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 20:02	1
Selenium	6.5		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 20:02	1
Thallium	0.0042		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 20:02	1
Lithium	4.5		0.040	0.0083	mg/L		04/20/21 15:00	04/21/21 14:06	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.014		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:02	1
Barium	0.014		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:02	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:02	1
Calcium	410		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:02	1
Cadmium	0.0053		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:02	1
Cobalt	0.019		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:02	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:02	1
Molybdenum	0.0046	J	0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:02	1
Lead	0.00060	J	0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:02	1
Antimony	ND		0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:02	1
Selenium	1.9		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:02	1
Lithium	3.9	B	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:02	1
Thallium	0.0045		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:02	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017	J	0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:04	1
Barium	0.022		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:04	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:04	1
Calcium	420		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:04	1
Cadmium	0.00076	J	0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:04	1
Cobalt	0.0020		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:04	1
Chromium	0.0021		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:04	1
Molybdenum	0.0094	J	0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:04	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:04	1
Antimony	0.00087	J	0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:04	1
Selenium	0.13		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:04	1
Lithium	2.8	B	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:04	1
Thallium	0.0020		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:04	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.051		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:07	1
Barium	0.018		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:07	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:07	1
Calcium	240		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:07	1
Cadmium	0.00038	J	0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:07	1
Cobalt	0.0053		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:07	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:07	1
Molybdenum	0.0052	J	0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:07	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:07	1
Antimony	0.00058	J	0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:07	1
Selenium	7.1		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:07	1
Lithium	3.6	B	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:07	1
Thallium	0.0049		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:07	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:05	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:09	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:11	1

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:15	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:17	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:19	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:21	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 15:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:40	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:42	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:44	1

General Chemistry

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			04/16/21 19:30	1
Temperature	22.2	HF	1.0	1.0	Degrees C			04/16/21 19:30	1
Chloride	780		30	10	mg/L			05/10/21 16:47	10
Fluoride	ND		500	170	mg/L			05/10/21 17:01	1000
Sulfate	39000		5000	1000	mg/L			05/10/21 17:01	1000
Total Dissolved Solids (TDS)	66000		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	56		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			04/16/21 19:34	1
Temperature	21.6	HF	1.0	1.0	Degrees C			04/16/21 19:34	1
Chloride	870		30	10	mg/L			05/10/21 17:29	10
Fluoride	0.77		0.50	0.17	mg/L			05/10/21 17:15	1
Sulfate	17000		500	100	mg/L			05/10/21 17:43	100
Total Dissolved Solids (TDS)	23000		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	22		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			04/16/21 19:38	1
Temperature	21.5	HF	1.0	1.0	Degrees C			04/16/21 19:38	1
Chloride	1600		30	10	mg/L			05/10/21 19:35	10
Fluoride	0.81		0.50	0.17	mg/L			05/10/21 19:21	1
Sulfate	19000		1000	210	mg/L			05/10/21 19:49	200
Total Dissolved Solids (TDS)	28000		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	32		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.2	HF	0.1	0.1	SU			04/20/21 15:07	1

General Chemistry (Continued)

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	21.8	HF	1.0	1.0	Degrees C			04/20/21 15:07	1
Chloride	ND		3.0	1.0	mg/L			05/10/21 22:09	1
Fluoride	ND		0.50	0.17	mg/L			05/10/21 22:09	1
Sulfate	ND		5.0	1.0	mg/L			05/10/21 22:09	1
Total Dissolved Solids (TDS)	7.0	J	10	4.7	mg/L			04/17/21 12:50	1
Total Suspended Solids	ND		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			04/19/21 19:55	1
Temperature	22.1	HF	1.0	1.0	Degrees C			04/19/21 19:55	1
Chloride	360		30	10	mg/L			05/10/21 20:17	10
Fluoride	0.38	J	0.50	0.17	mg/L			05/10/21 20:03	1
Sulfate	16000		2500	520	mg/L			05/10/21 20:31	500
Total Dissolved Solids (TDS)	25000		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	27		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			04/19/21 19:59	1
Temperature	21.6	HF	1.0	1.0	Degrees C			04/19/21 19:59	1
Chloride	370		30	10	mg/L			05/10/21 22:51	10
Fluoride	0.38	J	0.50	0.17	mg/L			05/10/21 22:37	1
Sulfate	16000		1000	210	mg/L			05/10/21 23:05	200
Total Dissolved Solids (TDS)	22000		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	18		4.0	1.1	mg/L			04/19/21 13:24	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			04/19/21 20:03	1
Temperature	21.1	HF	1.0	1.0	Degrees C			04/19/21 20:03	1
Chloride	200		30	10	mg/L			05/10/21 23:33	10
Fluoride	0.39	J	0.50	0.17	mg/L			05/10/21 23:19	1
Sulfate	2900		1000	210	mg/L			05/10/21 23:47	200
Total Dissolved Solids (TDS)	5100		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	3.6	J	4.0	1.1	mg/L			04/20/21 16:40	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			04/19/21 20:07	1
Temperature	21.1	HF	1.0	1.0	Degrees C			04/19/21 20:07	1
Chloride	1100		30	10	mg/L			05/11/21 01:11	10

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry (Continued)

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			05/11/21 00:57	1
Sulfate	**60000**		2500	520	mg/L			05/11/21 20:02	500
Total Dissolved Solids (TDS)	**79000**		1000	470	mg/L			04/17/21 12:50	1
Total Suspended Solids	**55**		4.0	1.1	mg/L			04/20/21 16:40	1

General Chemistry - RA

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	**6300**	**H**	1000	470	mg/L			04/24/21 11:45	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482189

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/20/21 15:00	04/21/21 21:27	1

Lab Sample ID: LCS 240-481984/2-A
Matrix: Water
Analysis Batch: 482189

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.919		mg/L		92	80 - 120

Lab Sample ID: MB 240-484004/1-A
Matrix: Water
Analysis Batch: 484246

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 18:40	1

Lab Sample ID: LCS 240-484004/2-A
Matrix: Water
Analysis Batch: 484246

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/20/21 15:00	04/21/21 12:56	1
Barium	ND		0.0050	0.0022	mg/L		04/20/21 15:00	04/21/21 12:56	1
Beryllium	ND		0.0010	0.00031	mg/L		04/20/21 15:00	04/21/21 12:56	1
Calcium	ND		1.0	0.58	mg/L		04/20/21 15:00	04/21/21 12:56	1
Cadmium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 12:56	1
Cobalt	ND		0.0010	0.00019	mg/L		04/20/21 15:00	04/21/21 12:56	1
Chromium	ND		0.0020	0.00098	mg/L		04/20/21 15:00	04/21/21 12:56	1
Molybdenum	ND		0.010	0.0011	mg/L		04/20/21 15:00	04/21/21 12:56	1
Antimony	ND		0.0020	0.00057	mg/L		04/20/21 15:00	04/21/21 12:56	1
Lead	ND		0.0010	0.00045	mg/L		04/20/21 15:00	04/21/21 12:56	1
Selenium	ND		0.0050	0.00089	mg/L		04/20/21 15:00	04/21/21 12:56	1
Lithium	ND		0.0080	0.0017	mg/L		04/20/21 15:00	04/21/21 12:56	1
Thallium	ND		0.0010	0.00020	mg/L		04/20/21 15:00	04/21/21 12:56	1

Lab Sample ID: LCS 240-481984/3-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.851		mg/L		85	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-481984/3-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.00	0.850		mg/L		85	80 - 120
Beryllium	0.500	0.451		mg/L		90	80 - 120
Calcium	25.0	22.0		mg/L		88	80 - 120
Cadmium	0.500	0.429		mg/L		86	80 - 120
Cobalt	0.500	0.436		mg/L		87	80 - 120
Chromium	0.500	0.435		mg/L		87	80 - 120
Molybdenum	0.500	0.434		mg/L		87	80 - 120
Antimony	0.100	0.0893		mg/L		89	80 - 120
Lead	0.500	0.454		mg/L		91	80 - 120
Selenium	1.00	0.847		mg/L		85	80 - 120
Lithium	0.500	0.455		mg/L		91	80 - 120
Thallium	1.00	0.878		mg/L		88	80 - 120

Lab Sample ID: MB 240-484004/1-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 18:20	1
Barium	ND		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 18:20	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 18:20	1
Calcium	ND		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 18:20	1
Cadmium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 18:20	1
Cobalt	ND		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 18:20	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 18:20	1
Molybdenum	ND		0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 18:20	1
Antimony	ND		0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 18:20	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 18:20	1
Selenium	ND		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 18:20	1
Lithium	0.00223	J	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 18:20	1
Thallium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 18:20	1

Lab Sample ID: LCS 240-484004/3-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.916		mg/L		92	80 - 120
Barium	1.00	0.918		mg/L		92	80 - 120
Beryllium	0.500	0.472		mg/L		94	80 - 120
Calcium	25.0	24.2		mg/L		97	80 - 120
Cadmium	0.500	0.463		mg/L		93	80 - 120
Cobalt	0.500	0.470		mg/L		94	80 - 120
Chromium	0.500	0.489		mg/L		98	80 - 120
Molybdenum	0.500	0.467		mg/L		93	80 - 120
Antimony	0.100	0.0965		mg/L		96	80 - 120
Lead	0.500	0.502		mg/L		100	80 - 120
Selenium	1.00	0.881		mg/L		88	80 - 120
Lithium	0.500	0.537		mg/L		107	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-484004/3-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	0.987		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-481985/1-A
Matrix: Water
Analysis Batch: 482206

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 481985

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/20/21 15:00	04/21/21 13:26	1

Lab Sample ID: LCS 240-481985/2-A
Matrix: Water
Analysis Batch: 482206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 481985

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00526		mg/L		105	80 - 120

Lab Sample ID: MB 240-484006/1-A
Matrix: Water
Analysis Batch: 484229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 11:23	1

Lab Sample ID: LCS 240-484006/2-A
Matrix: Water
Analysis Batch: 484229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00472		mg/L		94	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-533009/30
Matrix: Water
Analysis Batch: 533009

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-533185/4
Matrix: Water
Analysis Batch: 533185

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 280-533238/4
Matrix: Water
Analysis Batch: 533238

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: 280-147426-4 DU
Matrix: Water
Analysis Batch: 533238

Client Sample ID: EB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	6.2	HF	5.8	F3	SU		6	5
Temperature	21.8	HF	21.3		Degrees C		2	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-535619/6
Matrix: Water
Analysis Batch: 535619

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/10/21 16:19	1
Fluoride	ND		0.50	0.17	mg/L			05/10/21 16:19	1
Sulfate	ND		5.0	1.0	mg/L			05/10/21 16:19	1

Lab Sample ID: LCS 280-535619/4
Matrix: Water
Analysis Batch: 535619

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	102		mg/L		102	90 - 110
Fluoride	5.00	5.06		mg/L		101	90 - 110
Sulfate	100	104		mg/L		104	90 - 110

Lab Sample ID: LCSD 280-535619/5
Matrix: Water
Analysis Batch: 535619

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	100	103		mg/L		103	90 - 110	0	10
Fluoride	5.00	5.07		mg/L		101	90 - 110	0	10
Sulfate	100	104		mg/L		104	90 - 110	0	10

Lab Sample ID: MRL 280-535619/3
Matrix: Water
Analysis Batch: 535619

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.10		mg/L		102	50 - 150
Fluoride	0.500	0.479	J	mg/L		96	50 - 150
Sulfate	5.00	4.94	J	mg/L		99	50 - 150

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-535721/6
Matrix: Water
Analysis Batch: 535721

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			05/11/21 16:53	1

Lab Sample ID: LCS 280-535721/4
Matrix: Water
Analysis Batch: 535721

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	100	106		mg/L		106	90 - 110

Lab Sample ID: LCSD 280-535721/5
Matrix: Water
Analysis Batch: 535721

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
Sulfate	100	106		mg/L		106	90 - 110	0	10

Lab Sample ID: MRL 280-535721/3
Matrix: Water
Analysis Batch: 535721

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	5.00	4.88	J	mg/L		98	50 - 150

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

Lab Sample ID: MB 280-532915/1
Matrix: Water
Analysis Batch: 532915

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			04/17/21 12:50	1

Lab Sample ID: LCS 280-532915/2
Matrix: Water
Analysis Batch: 532915

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 (TDS)	501	490		mg/L		98	88 - 114

Lab Sample ID: 280-147426-1 DU
Matrix: Water
Analysis Batch: 532915

Client Sample ID: W-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids (TDS)	66000		64200		mg/L		2	10

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

Lab Sample ID: MB 280-533758/1
Matrix: Water
Analysis Batch: 533758

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			04/24/21 11:45	1

Lab Sample ID: LCS 280-533758/2
Matrix: Water
Analysis Batch: 533758

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 (TDS)			501	478		mg/L		96	88 - 114		

Lab Sample ID: LCSD 280-533758/3
Matrix: Water
Analysis Batch: 533758

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 (TDS)			501	470		mg/L		94	88 - 114	2	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-533050/1
Matrix: Water
Analysis Batch: 533050

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/19/21 13:24	1

Lab Sample ID: LCS 280-533050/2
Matrix: Water
Analysis Batch: 533050

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	84.4		mg/L		84	79 - 114		

Lab Sample ID: 280-147426-1 DU
Matrix: Water
Analysis Batch: 533050

Client Sample ID: W-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	56			33.6	F3	mg/L				50	10

Lab Sample ID: 280-147426-6 DU
Matrix: Water
Analysis Batch: 533050

Client Sample ID: MW-1B-DUP
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	18			16.0		mg/L				10	10

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: MB 280-533244/1
Matrix: Water
Analysis Batch: 533244

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/20/21 16:40	1

Lab Sample ID: LCS 280-533244/2
Matrix: Water
Analysis Batch: 533244

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	80.4		mg/L		80	79 - 114		

Lab Sample ID: LCSD 280-533244/3
Matrix: Water
Analysis Batch: 533244

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 Suspended Solids			100	90.4		mg/L		90	79 - 114	12	20

Metals

Prep Batch: 481984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total Recoverable	Water	3005A	
280-147426-2	W-12	Total Recoverable	Water	3005A	
280-147426-3	MW-5	Total Recoverable	Water	3005A	
280-147426-4	EB-01	Total Recoverable	Water	3005A	
280-147426-5	MW-1B	Total Recoverable	Water	3005A	
280-147426-6	MW-1B-DUP	Total Recoverable	Water	3005A	
280-147426-7	MW-4B	Total Recoverable	Water	3005A	
280-147426-8	W-10B	Total Recoverable	Water	3005A	
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-481984/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 481985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	7470A	
280-147426-2	W-12	Total/NA	Water	7470A	
280-147426-3	MW-5	Total/NA	Water	7470A	
280-147426-4	EB-01	Total/NA	Water	7470A	
280-147426-5	MW-1B	Total/NA	Water	7470A	
280-147426-6	MW-1B-DUP	Total/NA	Water	7470A	
280-147426-7	MW-4B	Total/NA	Water	7470A	
280-147426-8	W-10B	Total/NA	Water	7470A	
MB 240-481985/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-481985/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 482189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total Recoverable	Water	6010C	481984
280-147426-2	W-12	Total Recoverable	Water	6010C	481984
280-147426-3	MW-5	Total Recoverable	Water	6010C	481984
280-147426-4	EB-01	Total Recoverable	Water	6010C	481984
280-147426-5	MW-1B	Total Recoverable	Water	6010C	481984
280-147426-6	MW-1B-DUP	Total Recoverable	Water	6010C	481984
280-147426-7	MW-4B	Total Recoverable	Water	6010C	481984
280-147426-8	W-10B	Total Recoverable	Water	6010C	481984
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	6010C	481984
LCS 240-481984/2-A	Lab Control Sample	Total Recoverable	Water	6010C	481984

Analysis Batch: 482206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	7470A	481985
280-147426-2	W-12	Total/NA	Water	7470A	481985
280-147426-3	MW-5	Total/NA	Water	7470A	481985
280-147426-4	EB-01	Total/NA	Water	7470A	481985
280-147426-5	MW-1B	Total/NA	Water	7470A	481985
280-147426-6	MW-1B-DUP	Total/NA	Water	7470A	481985
280-147426-7	MW-4B	Total/NA	Water	7470A	481985
280-147426-8	W-10B	Total/NA	Water	7470A	481985
MB 240-481985/1-A	Method Blank	Total/NA	Water	7470A	481985
LCS 240-481985/2-A	Lab Control Sample	Total/NA	Water	7470A	481985

Metals

Analysis Batch: 482275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total Recoverable	Water	6020A	481984
280-147426-1	W-7	Total Recoverable	Water	6020A	481984
280-147426-2	W-12	Total Recoverable	Water	6020A	481984
280-147426-2	W-12	Total Recoverable	Water	6020A	481984
280-147426-3	MW-5	Total Recoverable	Water	6020A	481984
280-147426-3	MW-5	Total Recoverable	Water	6020A	481984
280-147426-4	EB-01	Total Recoverable	Water	6020A	481984
280-147426-4	EB-01	Total Recoverable	Water	6020A	481984
280-147426-5	MW-1B	Total Recoverable	Water	6020A	481984
280-147426-5	MW-1B	Total Recoverable	Water	6020A	481984
280-147426-6	MW-1B-DUP	Total Recoverable	Water	6020A	481984
280-147426-6	MW-1B-DUP	Total Recoverable	Water	6020A	481984
280-147426-7	MW-4B	Total Recoverable	Water	6020A	481984
280-147426-7	MW-4B	Total Recoverable	Water	6020A	481984
280-147426-8	W-10B	Total Recoverable	Water	6020A	481984
280-147426-8	W-10B	Total Recoverable	Water	6020A	481984
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	6020A	481984
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	6020A	481984

Filtration Batch: 484002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	FILTRATION	
280-147426-3	MW-5	Dissolved	Water	FILTRATION	
280-147426-8	W-10B	Dissolved	Water	FILTRATION	

Prep Batch: 484004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	3005A	484002
280-147426-3	MW-5	Dissolved	Water	3005A	484002
280-147426-8	W-10B	Dissolved	Water	3005A	484002
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-484004/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-484004/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 484006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	7470A	484002
280-147426-3	MW-5	Dissolved	Water	7470A	484002
280-147426-8	W-10B	Dissolved	Water	7470A	484002
MB 240-484006/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-484006/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 484229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	7470A	484006
280-147426-3	MW-5	Dissolved	Water	7470A	484006
280-147426-8	W-10B	Dissolved	Water	7470A	484006
MB 240-484006/1-A	Method Blank	Total/NA	Water	7470A	484006
LCS 240-484006/2-A	Lab Control Sample	Total/NA	Water	7470A	484006

QC Association Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Analysis Batch: 484246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	6010C	484004
280-147426-3	MW-5	Dissolved	Water	6010C	484004
280-147426-8	W-10B	Dissolved	Water	6010C	484004
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	6010C	484004
LCS 240-484004/2-A	Lab Control Sample	Total Recoverable	Water	6010C	484004

Analysis Batch: 484359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Dissolved	Water	6020A	484004
280-147426-3	MW-5	Dissolved	Water	6020A	484004
280-147426-8	W-10B	Dissolved	Water	6020A	484004
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	6020A	484004
LCS 240-484004/3-A	Lab Control Sample	Total Recoverable	Water	6020A	484004

General Chemistry

Analysis Batch: 532915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	SM 2540C	
280-147426-2	W-12	Total/NA	Water	SM 2540C	
280-147426-3	MW-5	Total/NA	Water	SM 2540C	
280-147426-4	EB-01	Total/NA	Water	SM 2540C	
280-147426-5	MW-1B	Total/NA	Water	SM 2540C	
280-147426-6	MW-1B-DUP	Total/NA	Water	SM 2540C	
280-147426-7	MW-4B	Total/NA	Water	SM 2540C	
280-147426-8	W-10B	Total/NA	Water	SM 2540C	
MB 280-532915/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-532915/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-147426-1 DU	W-7	Total/NA	Water	SM 2540C	

Analysis Batch: 533009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	9040B	
280-147426-2	W-12	Total/NA	Water	9040B	
280-147426-3	MW-5	Total/NA	Water	9040B	
LCS 280-533009/30	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 533050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	SM 2540D	
280-147426-2	W-12	Total/NA	Water	SM 2540D	
280-147426-3	MW-5	Total/NA	Water	SM 2540D	
280-147426-4	EB-01	Total/NA	Water	SM 2540D	
280-147426-5	MW-1B	Total/NA	Water	SM 2540D	
280-147426-6	MW-1B-DUP	Total/NA	Water	SM 2540D	
MB 280-533050/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-533050/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-147426-1 DU	W-7	Total/NA	Water	SM 2540D	
280-147426-6 DU	MW-1B-DUP	Total/NA	Water	SM 2540D	

General Chemistry

Analysis Batch: 533185

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-5	MW-1B	Total/NA	Water	9040B	
280-147426-6	MW-1B-DUP	Total/NA	Water	9040B	
280-147426-7	MW-4B	Total/NA	Water	9040B	
280-147426-8	W-10B	Total/NA	Water	9040B	
LCS 280-533185/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 533238

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-4	EB-01	Total/NA	Water	9040B	
LCS 280-533238/4	Lab Control Sample	Total/NA	Water	9040B	
280-147426-4 DU	EB-01	Total/NA	Water	9040B	

Analysis Batch: 533244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-7	MW-4B	Total/NA	Water	SM 2540D	
280-147426-8	W-10B	Total/NA	Water	SM 2540D	
MB 280-533244/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-533244/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-533244/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 533758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-7 - RA	MW-4B	Total/NA	Water	SM 2540C	
MB 280-533758/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-533758/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-533758/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 535619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	9056A	
280-147426-1	W-7	Total/NA	Water	9056A	
280-147426-2	W-12	Total/NA	Water	9056A	
280-147426-2	W-12	Total/NA	Water	9056A	
280-147426-2	W-12	Total/NA	Water	9056A	
280-147426-3	MW-5	Total/NA	Water	9056A	
280-147426-3	MW-5	Total/NA	Water	9056A	
280-147426-3	MW-5	Total/NA	Water	9056A	
280-147426-4	EB-01	Total/NA	Water	9056A	
280-147426-5	MW-1B	Total/NA	Water	9056A	
280-147426-5	MW-1B	Total/NA	Water	9056A	
280-147426-5	MW-1B	Total/NA	Water	9056A	
280-147426-6	MW-1B-DUP	Total/NA	Water	9056A	
280-147426-6	MW-1B-DUP	Total/NA	Water	9056A	
280-147426-6	MW-1B-DUP	Total/NA	Water	9056A	
280-147426-7	MW-4B	Total/NA	Water	9056A	
280-147426-7	MW-4B	Total/NA	Water	9056A	
280-147426-7	MW-4B	Total/NA	Water	9056A	
280-147426-8	W-10B	Total/NA	Water	9056A	
280-147426-8	W-10B	Total/NA	Water	9056A	
MB 280-535619/6	Method Blank	Total/NA	Water	9056A	
LCS 280-535619/4	Lab Control Sample	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 535619 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-535619/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-535619/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 535721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-8	W-10B	Total/NA	Water	9056A	
MB 280-535721/6	Method Blank	Total/NA	Water	9056A	
LCS 280-535721/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-535721/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-535721/3	Lab Control Sample	Total/NA	Water	9056A	

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:13	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 22:45	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:02	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:38	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:33	DTN	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:40	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:05	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533009	04/16/21 19:30	QJB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 16:47	JMB	TAL DEN
Total/NA	Analysis	9056A		1000	10 mL	10 mL	535619	05/10/21 17:01	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 22:54	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:43	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:39	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:09	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533009	04/16/21 19:34	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 17:15	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 17:29	JMB	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	535619	05/10/21 17:43	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: MW-5
Lab Sample ID: 280-147426-3

Date Collected: 04/12/21 17:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:17	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 22:59	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:04	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:46	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:41	DTN	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:42	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:11	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533009	04/16/21 19:38	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 19:21	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 19:35	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	535619	05/10/21 19:49	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: EB-01
Lab Sample ID: 280-147426-4

Date Collected: 04/12/21 17:10
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 23:08	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:56	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:46	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:15	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533238	04/20/21 15:07	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 22:09	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 23:12	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:58	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:49	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:17	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533185	04/19/21 19:55	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 20:03	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 20:17	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	535619	05/10/21 20:31	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 23:17	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:01	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:52	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:19	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533185	04/19/21 19:59	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 22:37	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 22:51	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	535619	05/10/21 23:05	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533050	04/19/21 13:24	JMH	TAL DEN

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 23:30	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:03	DTN	TAL CAN

Client Sample ID: MW-4B
Lab Sample ID: 280-147426-7

Date Collected: 04/13/21 14:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 19:54	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:21	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533185	04/19/21 20:03	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/10/21 23:19	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/10/21 23:33	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	535619	05/10/21 23:47	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540C	RA	1	1 mL	100 mL	533758	04/24/21 11:45	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533244	04/20/21 16:40	JMH	TAL DEN

Client Sample ID: W-10B
Lab Sample ID: 280-147426-8

Date Collected: 04/13/21 15:45
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:22	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482189	04/21/21 23:34	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:07	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:06	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			482275	04/21/21 20:02	DTN	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:44	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	481985	04/20/21 15:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482206	04/21/21 15:23	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533185	04/19/21 20:07	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535619	05/11/21 00:57	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535619	05/11/21 01:11	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	535721	05/11/21 20:02	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	532915	04/17/21 12:50	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533244	04/20/21 16:40	JMH	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147426-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins Environment Testing America

280-147426 Chain of Custody

Client Information	Sampler: Tara Feat & Jacob Moorman	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone:	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

Analysis Requested

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:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	N	D	N	N	D	X	
~~MW-2~~ JM W-7	04-12-2021	1625	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-2B~~ JM W-12	04-12-2021	1420	G	Water	N	N	X	X	X	X	X	6	F JM
~~MW-3~~ JM MW-5	04-12-2021	1700	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-4~~ JM EB-01	04-12-2021	1710	G	Water	N	N	X	X	X	X	X	6	
~~MW-4B~~ JM ~~MW-1~~ JM MW-1B	04-13-2021	0925	G	Water	N	N	X	X	X	X	X	6	
~~MW-5~~ JM MW-1B-DUP	04-13-2021	0825	G	Water	N	N	X	X	X	X	X	6	
~~MW-6~~ JM MW-4B	04-13-2021	1400	G	Water	N	N	X	X	X	X	X	6	
~~DUP~~ JM MW-10B	04-13-2021	1545	G	Water	Y	N	X	X	X	X	X	7	
-DUP				Water									
-EB				Water									

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	Jake Moorman	04-14-2021 / 1625	HDR		04/14/2021 1625	EHDEN
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	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: 0.7, 1.9, 0.2, IR9, IR9, CF +0.1 outside

10.3/10.4

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563793.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147426-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/4/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S30

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	6010C/FILTRATION (MOD) Boron	6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	7470A/FILTRATION Mercury	Total Number of containers	Special Instructions/Note:
Preservation Code:														
W-7 (280-147426-1)	4/12/21	16:25 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-12 (280-147426-2)	4/12/21	14:20 Mountain		Water			X	X	X				1	Use Collision Cell
MW-5 (280-147426-3)	4/12/21	17:00 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
EB-01 (280-147426-4)	4/12/21	17:10 Mountain		Water			X	X	X				1	Use Collision Cell
MW-1B (280-147426-5)	4/13/21	09:25 Mountain		Water			X	X	X				1	Use Collision Cell
MW-1B-DUP (280-147426-6)	4/13/21	08:25 Mountain		Water			X	X	X				1	Use Collision Cell
MW-4B (280-147426-7)	4/13/21	14:00 Mountain		Water			X	X	X				1	Use Collision Cell
MW-10B (280-147426-8)	4/13/21	15:45 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
Josh Nielsen	4/15/21 1354	ETA Den	Corm Lab	4-16-21 940	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by: Colm G

Cooler Received on 4-16-21 Opened on 4-16-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam (Plastic Bag) None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water (None)

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 10.3 °C Corrected Cooler Temp. 10.4 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/(N)), # of containers (Y/N), and sample type of grab/comp(Y/(N))?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-565575.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147426-3
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 5/12/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

W009

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)	6020A/3005A (MOD) 3 Total Metals (w/collision cell)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
W-7 (280-147426-1)	4/12/21	16:25 Mountain		Water			X	1	Use Collision Cell
MW-5 (280-147426-3)	4/12/21	17:00 Mountain		Water			X	1	Use Collision Cell
MW-10B (280-147426-8)	4/13/21	15:45 Mountain		Water			X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/28/21 1305		MJS ETA CANTON	APR 29 2021	TOC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by:

Cooler Received on APR 29 2021 Opened on APR 29 2021 MJS ETA CANTON

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.9 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

only Plastic Unpreserved 1 liter was received

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147426-1

Login Number: 147426
List Number: 1
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver

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.	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	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147426-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche
Revision: 1

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
6/22/2021 8:11:53 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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

Job ID: 280-147426-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147426-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/14/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.6º C, 1.1º C and 1.8º C.

RADIUM-226 (GFPC)-Method 9315
The following samples were prepared at a reduced aliquot due to Matrix: W-7 (280-147426-1), W-12 (280-147426-2), MW-5 (280-147426-3), EB-01 (280-147426-4), MW-1B (280-147426-5), MW-1B-DUP (280-147426-6), MW-4B (280-147426-7) and MW-10B (280-147426-8).

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

RADIUM-228- Method 9320
The following samples were prepared at a reduced aliquot due to Matrix: W-7 (280-147426-1), W-12 (280-147426-2), MW-5 (280-147426-3), EB-01 (280-147426-4), MW-1B (280-147426-5), MW-1B-DUP (280-147426-6), MW-4B (280-147426-7) and MW-10B (280-147426-8).

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

REVISION
Per client, sample ID MW-10B should be W-10B. The report has been revised.

Detection Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7 — Lab Sample ID: 280-147426-1

No Detections.

Client Sample ID: W-12 — Lab Sample ID: 280-147426-2

No Detections.

Client Sample ID: MW-5 — Lab Sample ID: 280-147426-3

No Detections.

Client Sample ID: EB-01 — Lab Sample ID: 280-147426-4

No Detections.

Client Sample ID: MW-1B — Lab Sample ID: 280-147426-5

No Detections.

Client Sample ID: MW-1B-DUP — Lab Sample ID: 280-147426-6

No Detections.

Client Sample ID: MW-4B — Lab Sample ID: 280-147426-7

No Detections.

Client Sample ID: W-10B — Lab Sample ID: 280-147426-8

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147426-1	W-7	Water	04/12/21 16:25	04/14/21 16:25	
280-147426-2	W-12	Water	04/12/21 14:20	04/14/21 16:25	
280-147426-3	MW-5	Water	04/12/21 17:00	04/14/21 16:25	
280-147426-4	EB-01	Water	04/12/21 17:10	04/14/21 16:25	
280-147426-5	MW-1B	Water	04/13/21 09:25	04/14/21 16:25	
280-147426-6	MW-1B-DUP	Water	04/13/21 08:25	04/14/21 16:25	
280-147426-7	MW-4B	Water	04/13/21 14:00	04/14/21 16:25	
280-147426-8	W-10B	Water	04/13/21 15:45	04/14/21 16:25	

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.80**		0.372	0.406	1.00	0.263	pCi/L	04/23/21 15:37	05/18/21 07:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*04/23/21 15:37*	*05/18/21 07:05*	*1*

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.719**		0.248	0.256	1.00	0.241	pCi/L	04/23/21 15:37	05/18/21 07:05	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*04/23/21 15:37*	*05/18/21 07:05*	*1*

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.140	U	0.117	0.118	1.00	0.175	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*04/23/21 15:37*	*05/18/21 07:06*	*1*

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.00248	U	0.0694	0.0694	1.00	0.140	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*04/23/21 15:37*	*05/18/21 07:06*	*1*

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.437**		0.200	0.204	1.00	0.221	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.9*		*40 - 110*	*04/23/21 15:37*	*05/18/21 07:06*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.686		0.234	0.242	1.00	0.212	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110	04/23/21 15:37	05/18/21 07:06	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.548		0.162	0.169	1.00	0.132	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.3		40 - 110	04/23/21 15:37	05/18/21 07:06	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.815		0.208	0.221	1.00	0.156	pCi/L	04/23/21 15:37	05/18/21 07:06	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	82.1		40 - 110	04/23/21 15:37	05/18/21 07:06	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.07		0.706	0.760	1.00	0.830	pCi/L	04/23/21 16:50	05/11/21 17:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110	04/23/21 16:50	05/11/21 17:51	1
Y Carrier	84.1		40 - 110	04/23/21 16:50	05/11/21 17:51	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.66		0.576	0.596	1.00	0.770	pCi/L	04/23/21 16:50	05/11/21 17:51	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110	04/23/21 16:50	05/11/21 17:51	1
Y Carrier	85.6		40 - 110	04/23/21 16:50	05/11/21 17:51	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.148	U	0.334	0.334	1.00	0.574	pCi/L	04/23/21 16:50	05/11/21 17:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.3		40 - 110	04/23/21 16:50	05/11/21 17:51	1
Y Carrier	81.9		40 - 110	04/23/21 16:50	05/11/21 17:51	1

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.283	U	0.233	0.234	1.00	0.367	pCi/L	04/23/21 16:50	05/11/21 17:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110	04/23/21 16:50	05/11/21 17:51	1
Y Carrier	84.5		40 - 110	04/23/21 16:50	05/11/21 17:51	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.833**		0.527	0.532	1.00	0.804	pCi/L	04/23/21 16:50	05/11/21 17:51	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.9		40 - 110	04/23/21 16:50	05/11/21 17:51	1
Y Carrier	84.5		40 - 110	04/23/21 16:50	05/11/21 17:51	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.96**		0.643	0.668	1.00	0.860	pCi/L	04/23/21 16:50	05/11/21 17:52	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110	04/23/21 16:50	05/11/21 17:52	1
Y Carrier	83.0		40 - 110	04/23/21 16:50	05/11/21 17:52	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.272	U	0.334	0.335	1.00	0.552	pCi/L	04/23/21 16:50	05/11/21 17:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.3*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*
Y Carrier	*82.2*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.50**		0.428	0.450	1.00	0.515	pCi/L	04/23/21 16:50	05/11/21 17:52	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*82.1*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*
Y Carrier	*81.9*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**4.88**		0.798	0.862	5.00	0.830	pCi/L		05/19/21 22:07	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.38**		0.627	0.649	5.00	0.770	pCi/L		05/19/21 22:07	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25

Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.287	U	0.354	0.354	5.00	0.574	pCi/L		05/19/21 22:07	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.281	U	0.243	0.244	5.00	0.367	pCi/L		05/19/21 22:07	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.27**		0.564	0.570	5.00	0.804	pCi/L		05/19/21 22:07	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.65**		0.684	0.710	5.00	0.860	pCi/L		05/19/21 22:07	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.820**		0.371	0.375	5.00	0.552	pCi/L		05/19/21 22:07	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.32**		0.476	0.501	5.00	0.515	pCi/L		05/19/21 22:07	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-506765/23-A
Matrix: Water
Analysis Batch: 510268

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506765

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.04273	U	0.0704	0.0705	1.00	0.166	pCi/L	04/23/21 15:37	05/18/21 09:06	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*04/23/21 15:37*	*05/18/21 09:06*	*1*

Lab Sample ID: LCS 160-506765/1-A
Matrix: Water
Analysis Batch: 510268

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506765

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	14.04		1.50	1.00	0.174	pCi/L	93	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.5*		*40 - 110*

Lab Sample ID: LCSD 160-506765/2-A
Matrix: Water
Analysis Batch: 510268

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506765

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.06		1.38	1.00	0.141	pCi/L	86	75 - 125	0.34	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*93.0*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-506766/23-A
Matrix: Water
Analysis Batch: 509145

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 506766

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4776	U	0.323	0.326	1.00	0.493	pCi/L	04/23/21 16:50	05/11/21 17:52	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.3*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*
Y Carrier	*84.5*		*40 - 110*	*04/23/21 16:50*	*05/11/21 17:52*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-506766/1-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 506766

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.63	9.834		1.32	1.00	0.665	pCi/L	102	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.5*		*40 - 110*
Y Carrier	*69.5*		*40 - 110*

Lab Sample ID: LCSD 160-506766/2-A
Matrix: Water
Analysis Batch: 509146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 506766

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.63	10.30		1.27	1.00	0.548	pCi/L	107	75 - 125	0.18	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*93.0*		*40 - 110*
Y Carrier	*83.7*		*40 - 110*

QC Association Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 506765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	PrecSep-21	
280-147426-2	W-12	Total/NA	Water	PrecSep-21	
280-147426-3	MW-5	Total/NA	Water	PrecSep-21	
280-147426-4	EB-01	Total/NA	Water	PrecSep-21	
280-147426-5	MW-1B	Total/NA	Water	PrecSep-21	
280-147426-6	MW-1B-DUP	Total/NA	Water	PrecSep-21	
280-147426-7	MW-4B	Total/NA	Water	PrecSep-21	
280-147426-8	W-10B	Total/NA	Water	PrecSep-21	
MB 160-506765/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-506765/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-506765/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 506766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	PrecSep_0	
280-147426-2	W-12	Total/NA	Water	PrecSep_0	
280-147426-3	MW-5	Total/NA	Water	PrecSep_0	
280-147426-4	EB-01	Total/NA	Water	PrecSep_0	
280-147426-5	MW-1B	Total/NA	Water	PrecSep_0	
280-147426-6	MW-1B-DUP	Total/NA	Water	PrecSep_0	
280-147426-7	MW-4B	Total/NA	Water	PrecSep_0	
280-147426-8	W-10B	Total/NA	Water	PrecSep_0	
MB 160-506766/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-506766/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-506766/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7
Lab Sample ID: 280-147426-1
Date Collected: 04/12/21 16:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.37 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:05	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.37 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: W-12
Lab Sample ID: 280-147426-2
Date Collected: 04/12/21 14:20
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.35 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:05	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.35 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: MW-5
Lab Sample ID: 280-147426-3
Date Collected: 04/12/21 17:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.74 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.74 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: EB-01
Lab Sample ID: 280-147426-4
Date Collected: 04/12/21 17:10
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.50 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			1000.50 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1B
Lab Sample ID: 280-147426-5
Date Collected: 04/13/21 09:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.14 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.14 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: MW-1B-DUP
Lab Sample ID: 280-147426-6
Date Collected: 04/13/21 08:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.46 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.46 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:52	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: MW-4B
Lab Sample ID: 280-147426-7
Date Collected: 04/13/21 14:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.14 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.14 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1			509145	05/11/21 17:52	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Client Sample ID: W-10B
Lab Sample ID: 280-147426-8
Date Collected: 04/13/21 15:45
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.98 mL	1.0 g	506765	04/23/21 15:37	RMW	TAL SL
Total/NA	Analysis	9315		1			510283	05/18/21 07:06	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.98 mL	1.0 g	506766	04/23/21 16:50	RMW	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	509145	05/11/21 17:52	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			510519	05/19/21 22:07	GRW	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins Environment Testing America

280-147426 Chain of Custody

Client Information	Sampler: Tara Feat & Jacob Moorman	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone:	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

Analysis Requested

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:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	N	D	N	N	D	X	
~~MW-2~~ JM W-7	04-12-2021	1625	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-2B~~ JM W-12	04-12-2021	1420	G	Water	N	N	X	X	X	X	X	6	F JM
~~MW-3~~ JM MW-5	04-12-2021	1700	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-4~~ JM EB-01	04-12-2021	1710	G	Water	N	N	X	X	X	X	X	6	
~~MW-4B~~ JM ~~MW-1B~~ JM MW-1B	04-13-2021	0925	G	Water	N	N	X	X	X	X	X	6	
~~MW-5~~ JM MW-1B-DUP	04-13-2021	0825	G	Water	N	N	X	X	X	X	X	6	
~~MW-6~~ JM MW-4B	04-13-2021	1400	G	Water	N	N	X	X	X	X	X	6	
~~DUP~~ JM MW-10B	04-13-2021	1545	G	Water	Y	N	X	X	X	X	X	7	
-DUP				Water									
-EB				Water									

APP III & IV ANALYSIS

Special Instructions/Note:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	Jake Moorman	04-14-2021 / 1625	HDR		04/14/2021 1625	ESADEN
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	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: 0.7, 1.9, 0.2, IR9, IR9, CF +0.1 outside

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563798.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147426-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/4/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	Z - other (specify)

Other:

Analysis Requested

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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-7 (280-147426-1)	4/12/21	16:25 Mountain		Water			X	X	X	2	
W-12 (280-147426-2)	4/12/21	14:20 Mountain		Water			X	X	X	2	
MW-5 (280-147426-3)	4/12/21	17:00 Mountain		Water			X	X	X	2	
EB-01 (280-147426-4)	4/12/21	17:10 Mountain		Water			X	X	X	2	
MW-1B (280-147426-5)	4/13/21	09:25 Mountain		Water			X	X	X	2	
MW-1B-DUP (280-147426-6)	4/13/21	08:25 Mountain		Water			X	X	X	2	
MW-4B (280-147426-7)	4/13/21	14:00 Mountain		Water			X	X	X	2	
MW-10B (280-147426-8)	4/13/21	15:45 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/15/21 1255		FED EX		
2	FED EX			[signature]	4/16/21 1537	EJA STL
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147426-2

Login Number: 147426
List Number: 1
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver

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.	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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147426-2

Login Number: 147426
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/16/21 04:34 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.	N/A	
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-147426-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-147426-1	W-7	89.1
280-147426-2	W-12	89.1
280-147426-3	MW-5	87.3
280-147426-4	EB-01	89.7
280-147426-5	MW-1B	87.9
280-147426-6	MW-1B-DUP	90.6
280-147426-7	MW-4B	93.3
280-147426-8	W-10B	82.1
LCS 160-506765/1-A	Lab Control Sample	84.5
LCSD 160-506765/2-A	Lab Control Sample Dup	93.0
MB 160-506765/23-A	Method Blank	87.3

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-147426-1	W-7	89.1	84.1
280-147426-2	W-12	89.1	85.6
280-147426-3	MW-5	87.3	81.9
280-147426-4	EB-01	89.7	84.5
280-147426-5	MW-1B	87.9	84.5
280-147426-6	MW-1B-DUP	90.6	83.0
280-147426-7	MW-4B	93.3	82.2
280-147426-8	W-10B	82.1	81.9
LCS 160-506766/1-A	Lab Control Sample	84.5	69.5
LCSD 160-506766/2-A	Lab Control Sample Dup	93.0	83.7
MB 160-506766/23-A	Method Blank	87.3	84.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147426-3
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche
Revision: 1

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
6/22/2021 8:14:37 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-147426-3

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147426-3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/14/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 0.6º C, 1.1º C and 1.8º C.

Per client request on 04/27/2021, the Alkalinity, Magnesium, Potassium, and Sodium analysis were added. All other results are reported under jobs 280-147426-1 and 280-147426-2.

TOTAL RECOVERABLE METALS (ICPMS)

Several samples required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

ALKALINITY

The analysis for Alkalinity Method 2320B for several samples were performed outside of the prescribed hold time due to client request for analysis after hold time expiration. Please note that the sample results should be considered estimated.

Low levels of Alkalinity are present in the method blank associated with QC batch 280-534505. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

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

REVISION

Per client, sample ID MW-10B should be W-10B. The report has been revised.

Detection Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7 — Lab Sample ID: 280-147426-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	7600		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	60		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	8000		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1000	H B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1000	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: W-12 — Lab Sample ID: 280-147426-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	1100		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	37		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	5500		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1400	H B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 280-147426-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	2100		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	38		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	5000		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1400	H B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 280-147426-4

No Detections.

Client Sample ID: MW-1B — Lab Sample ID: 280-147426-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	2000		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	33		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	3200		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1200	H	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-1B-DUP — Lab Sample ID: 280-147426-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	1900		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	33		5.0	1.1	mg/L	5		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1B-DUP (Continued) — Lab Sample ID: 280-147426-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	3100		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1200	H B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1200	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-4B — Lab Sample ID: 280-147426-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	270		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	19		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	850		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	580	H	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	580	H	10	3.1	mg/L	1		SM 2320B	Total/NA

Client Sample ID: W-10B — Lab Sample ID: 280-147426-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	9700		5.0	1.0	mg/L	5		6020A	Total Recoverable
Potassium	74		5.0	1.1	mg/L	5		6020A	Total Recoverable
Sodium	6300		5.0	1.6	mg/L	5		6020A	Total Recoverable
Alkalinity	1000	H B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1000	H	10	3.1	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6020A	Metals (ICP/MS)	SW846	TAL CAN
SM 2320B	Alkalinity	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147426-1	W-7	Water	04/12/21 16:25	04/14/21 16:25	
280-147426-2	W-12	Water	04/12/21 14:20	04/14/21 16:25	
280-147426-3	MW-5	Water	04/12/21 17:00	04/14/21 16:25	
280-147426-4	EB-01	Water	04/12/21 17:10	04/14/21 16:25	
280-147426-5	MW-1B	Water	04/13/21 09:25	04/14/21 16:25	
280-147426-6	MW-1B-DUP	Water	04/13/21 08:25	04/14/21 16:25	
280-147426-7	MW-4B	Water	04/13/21 14:00	04/14/21 16:25	
280-147426-8	W-10B	Water	04/13/21 15:45	04/14/21 16:25	

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	7600		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 13:38	5
Potassium	60		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 13:38	5
Sodium	8000		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 13:38	5

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1100		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 13:43	5
Potassium	37		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 13:43	5
Sodium	5500		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 13:43	5

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	2100		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 13:46	5
Potassium	38		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 13:46	5
Sodium	5000		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 13:46	5

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		1.0	0.20	mg/L		04/20/21 15:00	04/29/21 23:06	1
Potassium	ND		1.0	0.22	mg/L		04/20/21 15:00	04/29/21 23:06	1
Sodium	ND		1.0	0.33	mg/L		04/20/21 15:00	04/29/21 23:06	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	2000		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 13:58	5
Potassium	33		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 13:58	5
Sodium	3200		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 13:58	5

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	1900		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 14:01	5
Potassium	33		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 14:01	5
Sodium	3100		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 14:01	5

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	270		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 14:03	5
Potassium	19		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 14:03	5
Sodium	850		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 14:03	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**9700**		5.0	1.0	mg/L		04/20/21 15:00	04/21/21 14:06	5
Potassium	**74**		5.0	1.1	mg/L		04/20/21 15:00	04/21/21 14:06	5
Sodium	**6300**		5.0	1.6	mg/L		04/20/21 15:00	04/21/21 14:06	5

General Chemistry

Client Sample ID: W-7
Date Collected: 04/12/21 16:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1000**	**H B**	10	3.1	mg/L			04/29/21 22:20	1
Bicarbonate Alkalinity as CaCO3	**1000**	**H**	10	3.1	mg/L			04/29/21 22:20	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			04/29/21 22:20	1

Client Sample ID: W-12
Date Collected: 04/12/21 14:20
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1400**	**H B**	10	3.1	mg/L			04/29/21 22:35	1
Bicarbonate Alkalinity as CaCO3	**1400**	**H**	10	3.1	mg/L			04/29/21 22:35	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			04/29/21 22:35	1

Client Sample ID: MW-5
Date Collected: 04/12/21 17:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1400**	**H B**	10	3.1	mg/L			04/29/21 22:51	1
Bicarbonate Alkalinity as CaCO3	**1400**	**H**	10	3.1	mg/L			04/29/21 22:51	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			04/29/21 22:51	1

Client Sample ID: EB-01
Date Collected: 04/12/21 17:10
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND	H	10	3.1	mg/L			05/03/21 15:23	1
Bicarbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			05/03/21 15:23	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			05/03/21 15:23	1

Client Sample ID: MW-1B
Date Collected: 04/13/21 09:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1200**	**H**	10	3.1	mg/L			05/03/21 15:42	1
Bicarbonate Alkalinity as CaCO3	**1200**	**H**	10	3.1	mg/L			05/03/21 15:42	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			05/03/21 15:42	1

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1200**	**H B**	10	3.1	mg/L			04/29/21 23:25	1

General Chemistry (Continued)

Client Sample ID: MW-1B-DUP
Date Collected: 04/13/21 08:25
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**1200**	**H**	10	3.1	mg/L			04/29/21 23:25	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			04/29/21 23:25	1

Client Sample ID: MW-4B
Date Collected: 04/13/21 14:00
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**580**	**H**	10	3.1	mg/L			05/03/21 15:52	1
Bicarbonate Alkalinity as CaCO3	**580**	**H**	10	3.1	mg/L			05/03/21 15:52	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			05/03/21 15:52	1

Client Sample ID: W-10B
Date Collected: 04/13/21 15:45
Date Received: 04/14/21 16:25
Lab Sample ID: 280-147426-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	**1000**	**H B**	10	3.1	mg/L			04/29/21 23:48	1
Bicarbonate Alkalinity as CaCO3	**1000**	**H**	10	3.1	mg/L			04/29/21 23:48	1
Carbonate Alkalinity as CaCO3	ND	H	10	3.1	mg/L			04/29/21 23:48	1

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-481984/1-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		1.0	0.20	mg/L		04/20/21 15:00	04/21/21 12:56	1
Potassium	ND		1.0	0.22	mg/L		04/20/21 15:00	04/21/21 12:56	1
Sodium	ND		1.0	0.33	mg/L		04/20/21 15:00	04/21/21 12:56	1

Lab Sample ID: LCS 240-481984/3-A
Matrix: Water
Analysis Batch: 482275

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 481984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	25.0	22.2		mg/L		89	80 - 120
Potassium	25.0	21.7		mg/L		87	80 - 120
Sodium	25.0	22.2		mg/L		89	80 - 120

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-534505/6
Matrix: Water
Analysis Batch: 534505

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	4.01	J	10	3.1	mg/L			04/29/21 20:07	1
Bicarbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			04/29/21 20:07	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			04/29/21 20:07	1

Lab Sample ID: LCS 280-534505/4
Matrix: Water
Analysis Batch: 534505

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	201		mg/L		101	89 - 109

Lab Sample ID: LCSD 280-534505/5
Matrix: Water
Analysis Batch: 534505

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	200	200		mg/L		100	89 - 109	0	10

Lab Sample ID: MB 280-534783/6
Matrix: Water
Analysis Batch: 534783

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		10	3.1	mg/L			05/03/21 15:17	1
Bicarbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			05/03/21 15:17	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			05/03/21 15:17	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 280-534783/4
Matrix: Water
Analysis Batch: 534783

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity			200	204		mg/L		102	89 - 109		

Lab Sample ID: LCSD 280-534783/5
Matrix: Water
Analysis Batch: 534783

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			200	203		mg/L		101	89 - 109	1	10

Lab Sample ID: 280-147426-4 DU
Matrix: Water
Analysis Batch: 534783

Client Sample ID: EB-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity	ND	H		ND		mg/L				NC	10

QC Association Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Prep Batch: 481984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total Recoverable	Water	3005A	
280-147426-2	W-12	Total Recoverable	Water	3005A	
280-147426-3	MW-5	Total Recoverable	Water	3005A	
280-147426-4	EB-01	Total Recoverable	Water	3005A	
280-147426-5	MW-1B	Total Recoverable	Water	3005A	
280-147426-6	MW-1B-DUP	Total Recoverable	Water	3005A	
280-147426-7	MW-4B	Total Recoverable	Water	3005A	
280-147426-8	W-10B	Total Recoverable	Water	3005A	
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 482275

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total Recoverable	Water	6020A	481984
280-147426-2	W-12	Total Recoverable	Water	6020A	481984
280-147426-3	MW-5	Total Recoverable	Water	6020A	481984
280-147426-5	MW-1B	Total Recoverable	Water	6020A	481984
280-147426-6	MW-1B-DUP	Total Recoverable	Water	6020A	481984
280-147426-7	MW-4B	Total Recoverable	Water	6020A	481984
280-147426-8	W-10B	Total Recoverable	Water	6020A	481984
MB 240-481984/1-A	Method Blank	Total Recoverable	Water	6020A	481984
LCS 240-481984/3-A	Lab Control Sample	Total Recoverable	Water	6020A	481984

Analysis Batch: 483555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-4	EB-01	Total Recoverable	Water	6020A	481984

General Chemistry

Analysis Batch: 534505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-1	W-7	Total/NA	Water	SM 2320B	
280-147426-2	W-12	Total/NA	Water	SM 2320B	
280-147426-3	MW-5	Total/NA	Water	SM 2320B	
280-147426-6	MW-1B-DUP	Total/NA	Water	SM 2320B	
280-147426-8	W-10B	Total/NA	Water	SM 2320B	
MB 280-534505/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-534505/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-534505/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

Analysis Batch: 534783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147426-4	EB-01	Total/NA	Water	SM 2320B	
280-147426-5	MW-1B	Total/NA	Water	SM 2320B	
280-147426-7	MW-4B	Total/NA	Water	SM 2320B	
MB 280-534783/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-534783/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-534783/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
280-147426-4 DU	EB-01	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7
Lab Sample ID: 280-147426-1
Date Collected: 04/12/21 16:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:38	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534505	04/29/21 22:20	QJB	TAL DEN

Client Sample ID: W-12
Lab Sample ID: 280-147426-2
Date Collected: 04/12/21 14:20
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:43	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534505	04/29/21 22:35	QJB	TAL DEN

Client Sample ID: MW-5
Lab Sample ID: 280-147426-3
Date Collected: 04/12/21 17:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:46	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534505	04/29/21 22:51	QJB	TAL DEN

Client Sample ID: EB-01
Lab Sample ID: 280-147426-4
Date Collected: 04/12/21 17:10
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			483555	04/29/21 23:06	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534783	05/03/21 15:23	QJB	TAL DEN

Client Sample ID: MW-1B
Lab Sample ID: 280-147426-5
Date Collected: 04/13/21 09:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 13:58	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534783	05/03/21 15:42	QJB	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1B-DUP
Lab Sample ID: 280-147426-6
Date Collected: 04/13/21 08:25
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:01	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534505	04/29/21 23:25	QJB	TAL DEN

Client Sample ID: MW-4B
Lab Sample ID: 280-147426-7
Date Collected: 04/13/21 14:00
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:03	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534783	05/03/21 15:52	QJB	TAL DEN

Client Sample ID: W-10B
Lab Sample ID: 280-147426-8
Date Collected: 04/13/21 15:45
Matrix: Water
Date Received: 04/14/21 16:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	481984	04/20/21 15:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			482275	04/21/21 14:06	DTN	TAL CAN
Total/NA	Analysis	SM 2320B		1			534505	04/29/21 23:48	QJB	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147426-3
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

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

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

280-147426 Chain of Custody

Client Information	Sampler: Tara Feat & Jacob Moorman	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone:	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

Analysis Requested

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:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	N	D		
~~MW-2~~ JM W-7	04-12-2021	1625	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-2B~~ JM W-12	04-12-2021	1420	G	Water	N	N	X	X	X	X	X	6	F JM
~~MW-3~~ JM MW-5	04-12-2021	1700	G	Water	N	N	X	X	X	X	X	7	FILTER @ LAB
~~MW-4~~ JM EB-01	04-12-2021	1710	G	Water	N	N	X	X	X	X	X	6	
~~MW-1B~~ JM ~~MW-1~~ JM MW-1B	04-13-2021	0925	G	Water	N	N	X	X	X	X	X	6	
~~MW-5~~ JM MW-1B-DUP	04-13-2021	0825	G	Water	N	N	X	X	X	X	X	6	
~~MW-6~~ JM MW-4B	04-13-2021	1400	G	Water	N	N	X	X	X	X	X	6	
~~DUP~~ JM MW-10B	04-13-2021	1545	G	Water	Y	N	X	X	X	X	X	7	
-DUP				Water									
-EB				Water									

APP III & IV ANALYSIS

Special Instructions/Note:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	Jake Moorman	04-14-2021 / 1625	HDR		04/14/2021 1625	ETHDEN
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	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: 0.7, 1.9, 0.2, IR9, IR9, CF +0.1 outside

10.3/10.4

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-563793.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147426-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/4/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S30

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	6010C/FILTRATION (MOD) Boron	6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	7470A/FILTRATION Mercury	Total Number of containers	Special Instructions/Note:
Preservation Code:														
W-7 (280-147426-1)	4/12/21	16:25 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-12 (280-147426-2)	4/12/21	14:20 Mountain		Water			X	X	X				1	Use Collision Cell
MW-5 (280-147426-3)	4/12/21	17:00 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
EB-01 (280-147426-4)	4/12/21	17:10 Mountain		Water			X	X	X				1	Use Collision Cell
MW-1B (280-147426-5)	4/13/21	09:25 Mountain		Water			X	X	X				1	Use Collision Cell
MW-1B-DUP (280-147426-6)	4/13/21	08:25 Mountain		Water			X	X	X				1	Use Collision Cell
MW-4B (280-147426-7)	4/13/21	14:00 Mountain		Water			X	X	X				1	Use Collision Cell
MW-10B (280-147426-8)	4/13/21	15:45 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
Ashley Nielsen	4/15/21 1354	ETA Den	Comm Lab	4-16-21 940	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by: Colm G

Cooler Received on 4-16-21 Opened on 4-16-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam (Plastic Bag) None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water (None)

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 10.3 °C Corrected Cooler Temp. 10.4 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/(N)), # of containers (Y/N), and sample type of grab/comp(Y/(N))?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147426-3

Login Number: 147426
List Number: 1
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver

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.	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	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147650-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
5/17/2021 7:48:46 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-147650-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147650-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

Please note, sample W-4 was received with limited sample volume so only Total Metals are reported.

Some of the unpreserved volume was split off and filtered and preserved by the laboratory for Dissolved Metals analysis.

The Radioactive analyses are reported under job 280-147650-2.

DISSOLVED METALS- Method 6010C/6020A/7470A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- Method 6010C/6020A/7470A
Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

Low levels of Lithium are present in the method blank associated with QC batch 240-484359. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

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

GENERAL CHEMISTRY- VARIOUS METHODS
Some samples required dilution prior to analysis for Method 9056A. The reporting limits have been adjusted accordingly.

The pH sample duplicate analysis data associated with QC batch 280-533619 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The pH sample duplicate analysis data was performed on sample EB-02 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD for Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control;

Job ID: 280-147650-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Chloride MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

Detection Summary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-4 — Lab Sample ID: 280-147650-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.8		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.10		0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	400		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.013		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Chromium	0.065		0.010	0.0049	mg/L	5		6020A	Total Recoverable
Molybdenum	0.091		0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.0072	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	1.5		0.040	0.0083	mg/L	5		6020A	Total Recoverable

Client Sample ID: W-1 — Lab Sample ID: 280-147650-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.5		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	5.3		0.10	0.023	mg/L	1		6010C	Dissolved
Arsenic	0.012	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.014	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	410		5.0	2.9	mg/L	5		6020A	Total Recoverable
Molybdenum	0.021	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.74		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	2.1		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.0088		0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.0092		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	360		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.00024	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.00099	J	0.0010	0.00019	mg/L	1		6020A	Dissolved
Chromium	0.0013	J	0.0020	0.00098	mg/L	1		6020A	Dissolved
Molybdenum	0.019		0.010	0.0011	mg/L	1		6020A	Dissolved
Selenium	0.87		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	1.5	B	0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	770		30	10	mg/L	10		9056A	Total/NA
Fluoride	2.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	24000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	42000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	20		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-9
Lab Sample ID: 280-147650-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.6		0.10	0.023	mg/L	1		6010C	Total Recoverable
Boron	2.8		0.10	0.023	mg/L	1		6010C	Dissolved
Barium	0.024	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	390		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0064		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0077	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.0055	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	1.0		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.0014	J	0.0050	0.00075	mg/L	1		6020A	Dissolved
Barium	0.019		0.0050	0.0022	mg/L	1		6020A	Dissolved
Calcium	390		1.0	0.58	mg/L	1		6020A	Dissolved
Cadmium	0.00078	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
Cobalt	0.0064		0.0010	0.00019	mg/L	1		6020A	Dissolved
Molybdenum	0.0082	J	0.010	0.0011	mg/L	1		6020A	Dissolved
Antimony	0.0013	J	0.0020	0.00057	mg/L	1		6020A	Dissolved
Selenium	0.0061		0.0050	0.00089	mg/L	1		6020A	Dissolved
Lithium	0.97	B	0.0080	0.0017	mg/L	1		6020A	Dissolved
Thallium	0.00039	J	0.0010	0.00020	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	360		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.37	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	12000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	18000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	24		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: EB-02
Lab Sample ID: 280-147650-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.0061	J	0.0080	0.0017	mg/L	1		6020A	Total Recoverable
Lithium	0.0042	J B	0.0080	0.0017	mg/L	1		6020A	Dissolved
pH adj. to 25 deg C	6.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	10		10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN

Protocol References:

None = None

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147650-1	W-4	Water	04/19/21 11:00	04/20/21 12:25	
280-147650-2	W-1	Ground Water	04/19/21 11:25	04/20/21 12:25	
280-147650-3	W-9	Water	04/19/21 12:20	04/20/21 12:25	
280-147650-4	EB-02	Water	04/19/21 13:05	04/20/21 12:25	

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-4
Date Collected: 04/19/21 11:00
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**3.8**		0.10	0.023	mg/L		04/23/21 14:00	04/26/21 18:13	1

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.5**		0.10	0.023	mg/L		04/23/21 14:00	04/26/21 18:17	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.6**		0.10	0.023	mg/L		04/23/21 14:00	04/26/21 18:26	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/23/21 14:00	04/26/21 18:35	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.3**		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:26	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.8**		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:31	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 20:36	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-4
Date Collected: 04/19/21 11:00
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		04/23/21 14:00	04/29/21 18:54	5
Arsenic	ND		0.025	0.0038	mg/L		04/23/21 14:00	04/29/21 18:54	5
Barium	**0.10**		0.025	0.011	mg/L		04/23/21 14:00	04/29/21 18:54	5
Beryllium	ND		0.0050	0.0015	mg/L		04/23/21 14:00	04/29/21 18:54	5
Calcium	**400**		5.0	2.9	mg/L		04/23/21 14:00	04/29/21 18:54	5
Cadmium	ND		0.0050	0.00099	mg/L		04/23/21 14:00	04/29/21 18:54	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-4
Date Collected: 04/19/21 11:00
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.013**		0.0050	0.00095	mg/L		04/23/21 14:00	04/29/21 18:54	5
Chromium	**0.065**		0.010	0.0049	mg/L		04/23/21 14:00	04/29/21 18:54	5
Molybdenum	**0.091**		0.050	0.0054	mg/L		04/23/21 14:00	04/29/21 18:54	5
Lead	ND		0.0050	0.0023	mg/L		04/23/21 14:00	04/29/21 18:54	5
Selenium	**0.0072**	**J**	0.025	0.0045	mg/L		04/23/21 14:00	04/29/21 18:54	5
Thallium	ND		0.0050	0.0010	mg/L		04/23/21 14:00	04/29/21 18:54	5
Lithium	**1.5**		0.040	0.0083	mg/L		04/23/21 14:00	05/03/21 15:30	5

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		04/23/21 14:00	04/29/21 18:57	5
Arsenic	**0.012**	**J**	0.025	0.0038	mg/L		04/23/21 14:00	04/29/21 18:57	5
Barium	**0.014**	**J**	0.025	0.011	mg/L		04/23/21 14:00	04/29/21 18:57	5
Beryllium	ND		0.0050	0.0015	mg/L		04/23/21 14:00	04/29/21 18:57	5
Calcium	**410**		5.0	2.9	mg/L		04/23/21 14:00	04/29/21 18:57	5
Cadmium	ND		0.0050	0.00099	mg/L		04/23/21 14:00	04/29/21 18:57	5
Cobalt	ND		0.0050	0.00095	mg/L		04/23/21 14:00	04/29/21 18:57	5
Chromium	ND		0.010	0.0049	mg/L		04/23/21 14:00	04/29/21 18:57	5
Molybdenum	**0.021**	**J**	0.050	0.0054	mg/L		04/23/21 14:00	04/29/21 18:57	5
Lead	ND		0.0050	0.0023	mg/L		04/23/21 14:00	04/29/21 18:57	5
Selenium	**0.74**		0.025	0.0045	mg/L		04/23/21 14:00	04/29/21 18:57	5
Thallium	ND		0.0050	0.0010	mg/L		04/23/21 14:00	04/29/21 18:57	5
Lithium	**2.1**		0.040	0.0083	mg/L		04/23/21 14:00	05/03/21 15:33	5

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		04/23/21 14:00	04/29/21 19:02	5
Arsenic	ND		0.025	0.0038	mg/L		04/23/21 14:00	04/29/21 19:02	5
Barium	**0.024**	**J**	0.025	0.011	mg/L		04/23/21 14:00	04/29/21 19:02	5
Beryllium	ND		0.0050	0.0015	mg/L		04/23/21 14:00	04/29/21 19:02	5
Calcium	**390**		5.0	2.9	mg/L		04/23/21 14:00	04/29/21 19:02	5
Cadmium	ND		0.0050	0.00099	mg/L		04/23/21 14:00	04/29/21 19:02	5
Cobalt	**0.0064**		0.0050	0.00095	mg/L		04/23/21 14:00	04/29/21 19:02	5
Chromium	ND		0.010	0.0049	mg/L		04/23/21 14:00	04/29/21 19:02	5
Molybdenum	**0.0077**	**J**	0.050	0.0054	mg/L		04/23/21 14:00	04/29/21 19:02	5
Lead	ND		0.0050	0.0023	mg/L		04/23/21 14:00	04/29/21 19:02	5
Selenium	**0.0055**	**J**	0.025	0.0045	mg/L		04/23/21 14:00	04/29/21 19:02	5
Thallium	ND		0.0050	0.0010	mg/L		04/23/21 14:00	04/29/21 19:02	5
Lithium	**1.0**		0.040	0.0083	mg/L		04/23/21 14:00	05/03/21 15:38	5

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		04/23/21 14:00	04/29/21 19:13	1
Arsenic	ND		0.0050	0.00075	mg/L		04/23/21 14:00	04/29/21 19:13	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0050	0.0022	mg/L		04/23/21 14:00	04/29/21 19:13	1
Beryllium	ND		0.0010	0.00031	mg/L		04/23/21 14:00	04/29/21 19:13	1
Calcium	ND		1.0	0.58	mg/L		04/23/21 14:00	04/29/21 19:13	1
Cadmium	ND		0.0010	0.00020	mg/L		04/23/21 14:00	04/29/21 19:13	1
Cobalt	ND		0.0010	0.00019	mg/L		04/23/21 14:00	04/29/21 19:13	1
Chromium	ND		0.0020	0.00098	mg/L		04/23/21 14:00	04/29/21 19:13	1
Molybdenum	ND		0.010	0.0011	mg/L		04/23/21 14:00	04/29/21 19:13	1
Lead	ND		0.0010	0.00045	mg/L		04/23/21 14:00	04/29/21 19:13	1
Selenium	ND		0.0050	0.00089	mg/L		04/23/21 14:00	04/29/21 19:13	1
Thallium	ND		0.0010	0.00020	mg/L		04/23/21 14:00	04/29/21 19:13	1
Lithium	**0.0061**	**J**	0.0080	0.0017	mg/L		04/23/21 14:00	05/03/21 15:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0088**		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:09	1
Barium	**0.0092**		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:09	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:09	1
Calcium	**360**		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:09	1
Cadmium	**0.00024**	**J**	0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:09	1
Cobalt	**0.00099**	**J**	0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:09	1
Chromium	**0.0013**	**J**	0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:09	1
Molybdenum	**0.019**		0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:09	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:09	1
Antimony	ND		0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:09	1
Selenium	**0.87**		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:09	1
Lithium	**1.5**	**B**	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:09	1
Thallium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:09	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0014**	**J**	0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:17	1
Barium	**0.019**		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:17	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:17	1
Calcium	**390**		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:17	1
Cadmium	**0.00078**	**J**	0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:17	1
Cobalt	**0.0064**		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:17	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:17	1
Molybdenum	**0.0082**	**J**	0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:17	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:17	1
Antimony	**0.0013**	**J**	0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:17	1
Selenium	**0.0061**		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:17	1
Lithium	**0.97**	**B**	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:17	1
Thallium	**0.00039**	**J**	0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:17	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 19:19	1
Barium	ND		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 19:19	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 19:19	1
Calcium	ND		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 19:19	1
Cadmium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:19	1
Cobalt	ND		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 19:19	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 19:19	1
Molybdenum	ND		0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 19:19	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 19:19	1
Antimony	ND		0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 19:19	1
Selenium	ND		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 19:19	1
Lithium	**0.0042**	**J B**	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 19:19	1
Thallium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 19:19	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-4
Date Collected: 04/19/21 11:00
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/23/21 14:00	04/24/21 18:53	1

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/23/21 14:00	04/24/21 18:55	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/23/21 14:00	04/24/21 18:59	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/23/21 14:00	04/24/21 19:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:46	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:48	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 14:50	1

General Chemistry

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			04/22/21 13:24	1
Temperature	20.6	HF	1.0	1.0	Degrees C			04/22/21 13:24	1
Chloride	770		30	10	mg/L			05/13/21 05:53	10
Fluoride	2.9		0.50	0.17	mg/L			05/13/21 05:39	1
Sulfate	24000		2500	520	mg/L			05/14/21 05:13	500
Total Dissolved Solids (TDS)	42000		1000	470	mg/L			04/24/21 11:46	1
Total Suspended Solids	20		4.0	1.1	mg/L			04/21/21 14:43	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			04/22/21 13:28	1
Temperature	19.9	HF	1.0	1.0	Degrees C			04/22/21 13:28	1
Chloride	360		30	10	mg/L			05/13/21 06:35	10
Fluoride	0.37	J	0.50	0.17	mg/L			05/13/21 06:21	1
Sulfate	12000		500	100	mg/L			05/14/21 05:27	100
Total Dissolved Solids (TDS)	18000		1000	470	mg/L			04/24/21 11:46	1
Total Suspended Solids	24		4.0	1.1	mg/L			04/21/21 14:43	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25
Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.1	HF	0.1	0.1	SU			04/23/21 17:47	1
Temperature	21.6	HF	1.0	1.0	Degrees C			04/23/21 17:47	1
Chloride	ND		3.0	1.0	mg/L			05/13/21 08:27	1
Fluoride	ND		0.50	0.17	mg/L			05/13/21 08:27	1
Sulfate	ND		5.0	1.0	mg/L			05/14/21 05:41	1
Total Dissolved Solids (TDS)	10		10	4.7	mg/L			04/24/21 11:46	1
Total Suspended Solids	ND		4.0	1.1	mg/L			04/21/21 14:43	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-482527/1-A
Matrix: Water
Analysis Batch: 482915

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 482527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		04/23/21 14:00	04/26/21 17:13	1

Lab Sample ID: LCS 240-482527/2-A
Matrix: Water
Analysis Batch: 482915

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 482527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.05		mg/L		105	80 - 120

Lab Sample ID: MB 240-484004/1-A
Matrix: Water
Analysis Batch: 484246

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		05/04/21 15:30	05/05/21 18:40	1

Lab Sample ID: LCS 240-484004/2-A
Matrix: Water
Analysis Batch: 484246

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.02		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-482527/1-A
Matrix: Water
Analysis Batch: 483555

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 482527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		04/23/21 14:00	04/29/21 18:20	1
Barium	ND		0.0050	0.0022	mg/L		04/23/21 14:00	04/29/21 18:20	1
Beryllium	ND		0.0010	0.00031	mg/L		04/23/21 14:00	04/29/21 18:20	1
Calcium	ND		1.0	0.58	mg/L		04/23/21 14:00	04/29/21 18:20	1
Cadmium	ND		0.0010	0.00020	mg/L		04/23/21 14:00	04/29/21 18:20	1
Cobalt	ND		0.0010	0.00019	mg/L		04/23/21 14:00	04/29/21 18:20	1
Chromium	ND		0.0020	0.00098	mg/L		04/23/21 14:00	04/29/21 18:20	1
Molybdenum	ND		0.010	0.0011	mg/L		04/23/21 14:00	04/29/21 18:20	1
Antimony	ND		0.0020	0.00057	mg/L		04/23/21 14:00	04/29/21 18:20	1
Lead	ND		0.0010	0.00045	mg/L		04/23/21 14:00	04/29/21 18:20	1
Selenium	ND		0.0050	0.00089	mg/L		04/23/21 14:00	04/29/21 18:20	1
Lithium	ND		0.0080	0.0017	mg/L		04/23/21 14:00	04/29/21 18:20	1
Thallium	ND		0.0010	0.00020	mg/L		04/23/21 14:00	04/29/21 18:20	1

Lab Sample ID: LCS 240-482527/3-A
Matrix: Water
Analysis Batch: 483555

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 482527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.911		mg/L		91	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-482527/3-A
Matrix: Water
Analysis Batch: 483555

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 482527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.00	0.990		mg/L		99	80 - 120
Beryllium	0.500	0.463		mg/L		93	80 - 120
Calcium	25.0	24.2		mg/L		97	80 - 120
Cadmium	0.500	0.483		mg/L		97	80 - 120
Cobalt	0.500	0.484		mg/L		97	80 - 120
Chromium	0.500	0.504		mg/L		101	80 - 120
Molybdenum	0.500	0.478		mg/L		96	80 - 120
Antimony	0.100	0.102		mg/L		102	80 - 120
Lead	0.500	0.510		mg/L		102	80 - 120
Selenium	1.00	0.895		mg/L		90	80 - 120
Lithium	0.500	0.492		mg/L		98	80 - 120
Thallium	1.00	0.994		mg/L		99	80 - 120

Lab Sample ID: MB 240-484004/1-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		05/04/21 15:30	05/05/21 18:20	1
Barium	ND		0.0050	0.0022	mg/L		05/04/21 15:30	05/05/21 18:20	1
Beryllium	ND		0.0010	0.00031	mg/L		05/04/21 15:30	05/05/21 18:20	1
Calcium	ND		1.0	0.58	mg/L		05/04/21 15:30	05/05/21 18:20	1
Cadmium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 18:20	1
Cobalt	ND		0.0010	0.00019	mg/L		05/04/21 15:30	05/05/21 18:20	1
Chromium	ND		0.0020	0.00098	mg/L		05/04/21 15:30	05/05/21 18:20	1
Molybdenum	ND		0.010	0.0011	mg/L		05/04/21 15:30	05/05/21 18:20	1
Antimony	ND		0.0020	0.00057	mg/L		05/04/21 15:30	05/05/21 18:20	1
Lead	ND		0.0010	0.00045	mg/L		05/04/21 15:30	05/05/21 18:20	1
Selenium	ND		0.0050	0.00089	mg/L		05/04/21 15:30	05/05/21 18:20	1
Lithium	0.00223	J	0.0080	0.0017	mg/L		05/04/21 15:30	05/05/21 18:20	1
Thallium	ND		0.0010	0.00020	mg/L		05/04/21 15:30	05/05/21 18:20	1

Lab Sample ID: LCS 240-484004/3-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.916		mg/L		92	80 - 120
Barium	1.00	0.918		mg/L		92	80 - 120
Beryllium	0.500	0.472		mg/L		94	80 - 120
Calcium	25.0	24.2		mg/L		97	80 - 120
Cadmium	0.500	0.463		mg/L		93	80 - 120
Cobalt	0.500	0.470		mg/L		94	80 - 120
Chromium	0.500	0.489		mg/L		98	80 - 120
Molybdenum	0.500	0.467		mg/L		93	80 - 120
Antimony	0.100	0.0965		mg/L		96	80 - 120
Lead	0.500	0.502		mg/L		100	80 - 120
Selenium	1.00	0.881		mg/L		88	80 - 120
Lithium	0.500	0.537		mg/L		107	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-484004/3-A
Matrix: Water
Analysis Batch: 484359

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 484004

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	0.987		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-482528/1-A
Matrix: Water
Analysis Batch: 482735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 482528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		04/23/21 14:00	04/24/21 18:28	1

Lab Sample ID: LCS 240-482528/2-A
Matrix: Water
Analysis Batch: 482735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 482528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00530		mg/L		106	80 - 120

Lab Sample ID: MB 240-484006/1-A
Matrix: Water
Analysis Batch: 484229

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		05/04/21 15:30	05/05/21 11:23	1

Lab Sample ID: LCS 240-484006/2-A
Matrix: Water
Analysis Batch: 484229

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00472		mg/L		94	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-533619/4
Matrix: Water
Analysis Batch: 533619

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCS 280-533862/30
Matrix: Water
Analysis Batch: 533862

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Method: 9040B - pH (Continued)

Lab Sample ID: 280-147650-4 DU
Matrix: Water
Analysis Batch: 533862

Client Sample ID: EB-02
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH adj. to 25 deg C	6.1	HF	5.8	F3	SU		6	5
Temperature	21.6	HF	21.1		Degrees C		2	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-535831/6
Matrix: Water
Analysis Batch: 535831

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/12/21 12:25	1
Fluoride	ND		0.50	0.17	mg/L			05/12/21 12:25	1

Lab Sample ID: LCS 280-535831/4
Matrix: Water
Analysis Batch: 535831

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100		mg/L		100	90 - 110
Fluoride	5.00	4.91		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-535831/5
Matrix: Water
Analysis Batch: 535831

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	100	100		mg/L		100	90 - 110	0	10
Fluoride	5.00	4.93		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-535831/3
Matrix: Water
Analysis Batch: 535831

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.92		mg/L		98	50 - 150
Fluoride	0.500	0.445	J	mg/L		89	50 - 150

Lab Sample ID: MB 280-535996/6
Matrix: Water
Analysis Batch: 535996

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			05/13/21 15:43	1
Fluoride	ND		0.50	0.17	mg/L			05/13/21 15:43	1
Sulfate	ND		5.0	1.0	mg/L			05/13/21 15:43	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-535996/4
Matrix: Water
Analysis Batch: 535996

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	104		mg/L		104	90 - 110
Fluoride	5.00	5.12		mg/L		102	90 - 110
Sulfate	100	105		mg/L		105	90 - 110

Lab Sample ID: LCSD 280-535996/5
Matrix: Water
Analysis Batch: 535996

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	100	104		mg/L		104	90 - 110	0	10
Fluoride	5.00	5.10		mg/L		102	90 - 110	0	10
Sulfate	100	105		mg/L		105	90 - 110	0	10

Lab Sample ID: MRL 280-535996/3
Matrix: Water
Analysis Batch: 535996

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	5.19		mg/L		104	50 - 150
Fluoride	0.500	0.483	J	mg/L		97	50 - 150
Sulfate	5.00	5.09		mg/L		102	50 - 150

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

Lab Sample ID: MB 280-533759/1
Matrix: Water
Analysis Batch: 533759

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			04/24/21 11:46	1

Lab Sample ID: LCS 280-533759/2
Matrix: Water
Analysis Batch: 533759

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 (TDS)	501	455		mg/L		91	88 - 114

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-533371/1
Matrix: Water
Analysis Batch: 533371

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			04/21/21 14:43	1

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-533371/2
Matrix: Water
Analysis Batch: 533371

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	91.6		mg/L		92	79 - 114

Metals

Prep Batch: 482527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total Recoverable	Water	3005A	
280-147650-2	W-1	Total Recoverable	Ground Water	3005A	
280-147650-3	W-9	Total Recoverable	Water	3005A	
280-147650-4	EB-02	Total Recoverable	Water	3005A	
MB 240-482527/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-482527/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-482527/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 482528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total/NA	Water	7470A	
280-147650-2	W-1	Total/NA	Ground Water	7470A	
280-147650-3	W-9	Total/NA	Water	7470A	
280-147650-4	EB-02	Total/NA	Water	7470A	
MB 240-482528/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-482528/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 482735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total/NA	Water	7470A	482528
280-147650-2	W-1	Total/NA	Ground Water	7470A	482528
280-147650-3	W-9	Total/NA	Water	7470A	482528
280-147650-4	EB-02	Total/NA	Water	7470A	482528
MB 240-482528/1-A	Method Blank	Total/NA	Water	7470A	482528
LCS 240-482528/2-A	Lab Control Sample	Total/NA	Water	7470A	482528

Analysis Batch: 482915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total Recoverable	Water	6010C	482527
280-147650-2	W-1	Total Recoverable	Ground Water	6010C	482527
280-147650-3	W-9	Total Recoverable	Water	6010C	482527
280-147650-4	EB-02	Total Recoverable	Water	6010C	482527
MB 240-482527/1-A	Method Blank	Total Recoverable	Water	6010C	482527
LCS 240-482527/2-A	Lab Control Sample	Total Recoverable	Water	6010C	482527

Analysis Batch: 483555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total Recoverable	Water	6020A	482527
280-147650-2	W-1	Total Recoverable	Ground Water	6020A	482527
280-147650-3	W-9	Total Recoverable	Water	6020A	482527
280-147650-4	EB-02	Total Recoverable	Water	6020A	482527
MB 240-482527/1-A	Method Blank	Total Recoverable	Water	6020A	482527
LCS 240-482527/3-A	Lab Control Sample	Total Recoverable	Water	6020A	482527

Analysis Batch: 483959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-1	W-4	Total Recoverable	Water	6020A	482527
280-147650-2	W-1	Total Recoverable	Ground Water	6020A	482527
280-147650-3	W-9	Total Recoverable	Water	6020A	482527
280-147650-4	EB-02	Total Recoverable	Water	6020A	482527

Metals

Filtration Batch: 484002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	FILTRATION	
280-147650-3	W-9	Dissolved	Water	FILTRATION	
280-147650-4	EB-02	Dissolved	Water	FILTRATION	

Prep Batch: 484004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	3005A	484002
280-147650-3	W-9	Dissolved	Water	3005A	484002
280-147650-4	EB-02	Dissolved	Water	3005A	484002
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-484004/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-484004/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 484006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	7470A	484002
280-147650-3	W-9	Dissolved	Water	7470A	484002
280-147650-4	EB-02	Dissolved	Water	7470A	484002
MB 240-484006/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-484006/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 484229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	7470A	484006
280-147650-3	W-9	Dissolved	Water	7470A	484006
280-147650-4	EB-02	Dissolved	Water	7470A	484006
MB 240-484006/1-A	Method Blank	Total/NA	Water	7470A	484006
LCS 240-484006/2-A	Lab Control Sample	Total/NA	Water	7470A	484006

Analysis Batch: 484246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	6010C	484004
280-147650-3	W-9	Dissolved	Water	6010C	484004
280-147650-4	EB-02	Dissolved	Water	6010C	484004
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	6010C	484004
LCS 240-484004/2-A	Lab Control Sample	Total Recoverable	Water	6010C	484004

Analysis Batch: 484359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Dissolved	Ground Water	6020A	484004
280-147650-3	W-9	Dissolved	Water	6020A	484004
280-147650-4	EB-02	Dissolved	Water	6020A	484004
MB 240-484004/1-A	Method Blank	Total Recoverable	Water	6020A	484004
LCS 240-484004/3-A	Lab Control Sample	Total Recoverable	Water	6020A	484004

General Chemistry

Analysis Batch: 533371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	SM 2540D	
280-147650-3	W-9	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 533371 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-4	EB-02	Total/NA	Water	SM 2540D	
MB 280-533371/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-533371/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 533619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	9040B	
280-147650-3	W-9	Total/NA	Water	9040B	
LCS 280-533619/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 533759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	SM 2540C	
280-147650-3	W-9	Total/NA	Water	SM 2540C	
280-147650-4	EB-02	Total/NA	Water	SM 2540C	
MB 280-533759/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-533759/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 533862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-4	EB-02	Total/NA	Water	9040B	
LCS 280-533862/30	Lab Control Sample	Total/NA	Water	9040B	
280-147650-4 DU	EB-02	Total/NA	Water	9040B	

Analysis Batch: 535831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	9056A	
280-147650-2	W-1	Total/NA	Ground Water	9056A	
280-147650-3	W-9	Total/NA	Water	9056A	
280-147650-3	W-9	Total/NA	Water	9056A	
280-147650-4	EB-02	Total/NA	Water	9056A	
MB 280-535831/6	Method Blank	Total/NA	Water	9056A	
LCS 280-535831/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-535831/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-535831/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 535996

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	9056A	
280-147650-3	W-9	Total/NA	Water	9056A	
280-147650-4	EB-02	Total/NA	Water	9056A	
MB 280-535996/6	Method Blank	Total/NA	Water	9056A	
LCS 280-535996/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-535996/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-535996/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-4
Lab Sample ID: 280-147650-1
Date Collected: 04/19/21 11:00
Matrix: Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482915	04/26/21 18:13	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483555	04/29/21 18:54	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483959	05/03/21 15:30	RKT	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	482528	04/23/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482735	04/24/21 18:53	SLD	TAL CAN

Client Sample ID: W-1
Lab Sample ID: 280-147650-2
Date Collected: 04/19/21 11:25
Matrix: Ground Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:26	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482915	04/26/21 18:17	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:09	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483555	04/29/21 18:57	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483959	05/03/21 15:33	RKT	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:46	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	482528	04/23/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482735	04/24/21 18:55	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533619	04/22/21 13:24	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535831	05/13/21 05:39	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535831	05/13/21 05:53	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	535996	05/14/21 05:13	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	533759	04/24/21 11:46	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533371	04/21/21 14:43	LEB	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-9
Lab Sample ID: 280-147650-3
Date Collected: 04/19/21 12:20
Matrix: Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:31	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482915	04/26/21 18:26	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:17	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483555	04/29/21 19:02	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			483959	05/03/21 15:38	RKT	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:48	DTN	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	482528	04/23/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482735	04/24/21 18:59	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533619	04/22/21 13:28	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535831	05/13/21 06:21	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	535831	05/13/21 06:35	JMB	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	535996	05/14/21 05:27	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	533759	04/24/21 11:46	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533371	04/21/21 14:43	LEB	TAL DEN

Client Sample ID: EB-02
Lab Sample ID: 280-147650-4
Date Collected: 04/19/21 13:05
Matrix: Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6010C		1			484246	05/05/21 20:36	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			482915	04/26/21 18:35	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	484004	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	6020A		1			484359	05/05/21 19:19	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			483555	04/29/21 19:13	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	482527	04/23/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			483959	05/03/21 15:48	RKT	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	484002	05/04/21 11:00	MRL	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	484006	05/04/21 15:30	MRL	TAL CAN
Dissolved	Analysis	7470A		1			484229	05/05/21 14:50	DTN	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			50 mL	50 mL	482528	04/23/21 14:00	MRL	TAL CAN
Total/NA	Analysis	7470A		1			482735	04/24/21 19:04	SLD	TAL CAN
Total/NA	Analysis	9040B		1			533862	04/23/21 17:47	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535831	05/13/21 08:27	JMB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	535996	05/14/21 05:41	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	533759	04/24/21 11:46	JMH	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	533371	04/21/21 14:43	LEB	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147650-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21

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
9040B		Ground Water	Temperature
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21 *
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: Jacob Moorman	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone:	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

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	Z - other (specify)

Other:

App III & IV Analysis

Special Instructions/Note:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
Preservation Code:							N	D	N	N	D		
~~MW-1~~ MW-4	04-19-2021	1100	G	Water	N	N	X	X	X	X	X	1	~~Field~~ Filter @ LAB
~~MW-2~~ MW-1	04-19-2021	1125	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-3A~~ MW-9	04-19-2021	1220	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-3~~ EB-02	04-19-2021	1305	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-4~~				Water									
~~MW-5~~				Water									
~~MW-6~~				Water									
~~MW-7~~				Water									
~~MW-8A~~				Water									
~~MW-1~~				Water									
~~MW-1B~~				Water									

280-147650 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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: Jacob Moorman	Date/Time: 04-20-2021 1225	Company: HDR	Received by:	Date/Time: 04/20/2021 1225	Company: EHDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: NA

Cooler Temperature(s) °C and Other Remarks: 0.4 I 29C F 70.4

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

1.9/1.5

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-564567.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147650-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/10/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S39

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6020A/3005A (MOD) 12 Total Metals (w/collision cell)	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
Preservation Code:												
W-4 (280-147650-1)	4/19/21	11:00 Mountain		Water			X	X	X	X	1	Use Collision Cell
W-1 (280-147650-2)	4/19/21	11:25 Mountain		Water			X	X	X	X	2	Use Collision Cell
W-9 (280-147650-3)	4/19/21	12:20 Mountain		Water			X	X	X	X	2	Use Collision Cell
EB-02 (280-147650-4)	4/19/21	13:05 Mountain		Water			X	X	X	X	2	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
	04/21/2021 13:35	ETA DEN		4-22-21 1430	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETH Site Name _____ Cooler unpacked by: Matt

Cooler Received on 4-22-21 Opened on 4-22-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TD Foam Box Client Cooler Box Other _____

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other _____

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp. 1.5 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page | Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-565576.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147650-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/10/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

W009

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=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C/FILTRATION (MOD) Boron	6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	7470A/FILTRATION Mercury	Total Number of containers
			Preservation Code:							
W-1 (280-147650-2)	4/19/21	11:25 Mountain		Water			X	X	X	1
W-9 (280-147650-3)	4/19/21	12:20 Mountain		Water			X	X	X	1
EB-02 (280-147650-4)	4/19/21	13:05 Mountain		Water			X	X	X	1

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	4/28/21 1305		MJS ETA CANTON	APR 29 2021	TOA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 11/01/2020

5/17/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client EIA Denver Site Name _____ Cooler unpacked by:
Cooler Received on APR 29 2021 Opened on APR 29 2021 MJS ETA CANTON
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1 Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.9 °C
IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by: :

only Plastic Unpreserved 1 liter was received

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-565576.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147650-3
Address: 4101 Shuffel Street NW,	Due Date Requested: 5/18/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

W009

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)	6020A/3005A (MOD) 3 Total Metals (w/collision cell)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
W-1 (280-147650-2)	4/19/21	11:25 Mountain		Water			X	1	Use Collision Cell
W-9 (280-147650-3)	4/19/21	12:20 Mountain		Water			X	1	Use Collision Cell
EB-02 (280-147650-4)	4/19/21	13:05 Mountain		Water			X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
			MJS ETA CANTON	APR 29 2021	1000
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by:
Cooler Received on APR 29 2021 Opened on APR 29 2021 MJS ETA CANTON
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.9 °C
IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page — Samples processed by: _____

only Plastic Unpreserved liter was received

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147650-1

Login Number: 147650
List Number: 1
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver

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.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
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	

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-147650-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
5/24/2021 9:59:33 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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

Job ID: 280-147650-2

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-147650-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 04/20/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.8 C.

Please note, this report only contains the Radiological methods. All other methods reported under reports 280-147650-1 and 280-147650-3.

RADIUM-226 (GFPC)- Method 9315
The following samples were prepared at a reduced aliquot due to Matrix: W-1 and W-9.

The method 9315 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-228- Method 9320
The following samples were prepared at a reduced aliquot due to Matrix: W-1 and W-9.

The method 9320 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1 — Lab Sample ID: 280-147650-2

No Detections.

Client Sample ID: W-9 — Lab Sample ID: 280-147650-3

No Detections.

Client Sample ID: EB-02 — Lab Sample ID: 280-147650-4

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
280-147650-2	W-1	Ground Water	04/19/21 11:25	04/20/21 12:25	
280-147650-3	W-9	Water	04/19/21 12:20	04/20/21 12:25	
280-147650-4	EB-02	Water	04/19/21 13:05	04/20/21 12:25	

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.541**		0.180	0.186	1.00	0.173	pCi/L	04/30/21 09:15	05/24/21 11:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*04/30/21 09:15*	*05/24/21 11:45*	*1*

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.09**		0.233	0.253	1.00	0.150	pCi/L	04/30/21 09:15	05/24/21 11:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.8*		*40 - 110*	*04/30/21 09:15*	*05/24/21 11:46*	*1*

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.0306	U	0.0578	0.0578	1.00	0.139	pCi/L	04/30/21 09:15	05/24/21 11:46	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.2*		*40 - 110*	*04/30/21 09:15*	*05/24/21 11:46*	*1*

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.37**		0.432	0.450	1.00	0.570	pCi/L	04/30/21 09:58	05/19/21 13:31	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.7*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:31*	*1*
Y Carrier	*87.5*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:31*	*1*

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.846**		0.351	0.359	1.00	0.491	pCi/L	04/30/21 09:58	05/19/21 13:31	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	*94.8*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:31*	*1*
Y Carrier	*89.7*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:31*	*1*

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0856	U	0.250	0.250	1.00	0.434	pCi/L	04/30/21 09:58	05/19/21 13:32	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	*81.2*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:32*	*1*
Y Carrier	*89.3*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:32*	*1*

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-1
Date Collected: 04/19/21 11:25
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.91**		0.468	0.487	5.00	0.570	pCi/L		05/24/21 16:07	1

Client Sample ID: W-9
Date Collected: 04/19/21 12:20
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**1.94**		0.421	0.439	5.00	0.491	pCi/L		05/24/21 16:07	1

Client Sample ID: EB-02
Date Collected: 04/19/21 13:05
Date Received: 04/20/21 12:25

Lab Sample ID: 280-147650-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0550	U	0.257	0.257	5.00	0.434	pCi/L		05/24/21 16:07	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-507835/23-A
Matrix: Water
Analysis Batch: 511401

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507835

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03151	U	0.0636	0.0636	1.00	0.116	pCi/L	04/30/21 09:15	05/24/21 11:48	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.6*		*40 - 110*	*04/30/21 09:15*	*05/24/21 11:48*	*1*

Lab Sample ID: LCS 160-507835/1-A
Matrix: Water
Analysis Batch: 511399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507835

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.97		1.16	1.00	0.139	pCi/L	97	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*

Lab Sample ID: LCSD 160-507835/2-A
Matrix: Water
Analysis Batch: 511399

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507835

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.86		1.15	1.00	0.129	pCi/L	96	75 - 125	0.05	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.2*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-507838/23-A
Matrix: Water
Analysis Batch: 510517

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 507838

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.05595	U	0.234	0.234	1.00	0.411	pCi/L	04/30/21 09:58	05/19/21 13:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.6*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:37*	*1*
Y Carrier	*91.2*		*40 - 110*	*04/30/21 09:58*	*05/19/21 13:37*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-507838/1-A
Matrix: Water
Analysis Batch: 510474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 507838

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.71	8.976		1.05	1.00	0.371	pCi/L	92	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.2*		*40 - 110*
Y Carrier	*89.7*		*40 - 110*

Lab Sample ID: LCSD 160-507838/2-A
Matrix: Water
Analysis Batch: 510474

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 507838

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.71	8.027		0.971	1.00	0.368	pCi/L	83	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*91.2*		*40 - 110*
Y Carrier	*89.3*		*40 - 110*

QC Association Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 507835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	PrecSep-21	
280-147650-3	W-9	Total/NA	Water	PrecSep-21	
280-147650-4	EB-02	Total/NA	Water	PrecSep-21	
MB 160-507835/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-507835/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-507835/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 507838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-147650-2	W-1	Total/NA	Ground Water	PrecSep_0	
280-147650-3	W-9	Total/NA	Water	PrecSep_0	
280-147650-4	EB-02	Total/NA	Water	PrecSep_0	
MB 160-507838/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-507838/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-507838/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-147650-2
Date Collected: 04/19/21 11:25
Matrix: Ground Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.92 mL	1.0 g	507835	04/30/21 09:15	LAR	TAL SL
Total/NA	Analysis	9315		1			511399	05/24/21 11:45	JCB	TAL SL
Total/NA	Prep	PrecSep_0			749.92 mL	1.0 g	507838	04/30/21 09:58	LAR	TAL SL
Total/NA	Analysis	9320		1			510474	05/19/21 13:31	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			511413	05/24/21 16:07	FLC	TAL SL

Client Sample ID: W-9
Lab Sample ID: 280-147650-3
Date Collected: 04/19/21 12:20
Matrix: Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.81 mL	1.0 g	507835	04/30/21 09:15	LAR	TAL SL
Total/NA	Analysis	9315		1			511399	05/24/21 11:46	JCB	TAL SL
Total/NA	Prep	PrecSep_0			750.81 mL	1.0 g	507838	04/30/21 09:58	LAR	TAL SL
Total/NA	Analysis	9320		1			510474	05/19/21 13:31	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			511413	05/24/21 16:07	FLC	TAL SL

Client Sample ID: EB-02
Lab Sample ID: 280-147650-4
Date Collected: 04/19/21 13:05
Matrix: Water
Date Received: 04/20/21 12:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.22 mL	1.0 g	507835	04/30/21 09:15	LAR	TAL SL
Total/NA	Analysis	9315		1			511399	05/24/21 11:46	JCB	TAL SL
Total/NA	Prep	PrecSep_0			1000.22 mL	1.0 g	507838	04/30/21 09:58	LAR	TAL SL
Total/NA	Analysis	9320		1			510474	05/19/21 13:32	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			511413	05/24/21 16:07	FLC	TAL SL

Laboratory References:

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-21 *
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-21
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

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Client Information	Sampler: Jacob Moorman	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone:	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page: 1 of 1
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

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	Z - other (specify)

Other:

App III & IV Analysis

Special Instructions/Note:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appiii+IV, 7470A Hg	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	N	D		
~~MW-1~~ MW-4	04-19-2021	1100	G	Water	N	N	X	X	X	X	X	1	~~Field~~
~~MW-2~~ MW-1	04-19-2021	1125	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-3A~~ MW-9	04-19-2021	1220	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-4~~ EB-02	04-19-2021	1305	G	Water	N	N	X	X	X	X	X	7	Filter @ LAB
~~MW-4~~				Water									
~~MW-5~~				Water									
~~MW-6~~				Water									
~~MW-7~~				Water									
~~MW-8A~~				Water									
~~MW-1~~				Water									
~~MW-1B~~				Water									

280-147650 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by: Jacob Moorman	04-20-2021 / 1225	HDR		04/20/2021 1225	EHDEN
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.: NA

Cooler Temperature(s) °C and Other Remarks: 0.4 / 29C / F70.4

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-564568.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-147650-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/10/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045	PO #:			
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	WO #:			
Email:	Project #: 28014376			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	SSOW#:			
Site: Xcel Energy CCR - Comanche Station				

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-1 (280-147650-2)	4/19/21	11:25 Mountain		Water			X	X	X	2	
W-9 (280-147650-3)	4/19/21	12:20 Mountain		Water			X	X	X	2	
EB-02 (280-147650-4)	4/19/21	13:05 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature] FED EX	04/21/2021 12.40	ETA DEN	FED EX		
2	Relinquished by: FED EX	Date/Time:	Company	Received by: [signature]	Date/Time: 4/22/21 0900	Company ETA SLC
3	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:

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-147650-2

Login Number: 147650
List Number: 1
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver

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.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
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: HDR Inc

Job Number: 280-147650-2

Login Number: 147650
List Number: 2
Creator: Mazariegos, Leonel A

List Source: Eurofins TestAmerica, St. Louis
List Creation: 04/22/21 12:12 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?	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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-147650-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-147650-2	W-1	89.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-147650-3	W-9	94.8
280-147650-4	EB-02	81.2
LCS 160-507835/1-A	Lab Control Sample	95.2
LCSD 160-507835/2-A	Lab Control Sample Dup	91.2
MB 160-507835/23-A	Method Blank	87.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-147650-2	W-1	89.7	87.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-147650-3	W-9	94.8	89.7
280-147650-4	EB-02	81.2	89.3
LCS 160-507838/1-A	Lab Control Sample	95.2	89.7
LCSD 160-507838/2-A	Lab Control Sample Dup	91.2	89.3
MB 160-507838/23-A	Method Blank	87.6	91.2

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-149186-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche
Revision: 1

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Julieann L. Kramer

Authorized for release by:
7/30/2021 10:44:55 AM
Julieann Kramer, Project Management Assistant II
(303)736-0100
Julieann.Kramer@Eurofinset.com

Designee for

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F3	Duplicate RPD exceeds the control limit
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.
X	Carrier is outside acceptance limits.

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

Job ID: 280-149186-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-149186-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 05/28/2021; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 8 coolers at receipt time were 0.7º C, 0.7º C, 0.9º C, 1.8º C, 1.8º C, 1.8º C, 3.0º C and 3.9º C.

TOTAL RECOVERABLE METALS

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

TOTAL RECOVERABLE METALS (ICPMS)
Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

The accuracy and precision of the Calcium MS/MSD performed on a sample W-3 and W-7 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Barium failed the recovery criteria low for the MS/MSD of sample W-7. The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount. Refer to the QC report for details.

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

GENERAL CHEMISTRY- VARIOUS METHODS
Some samples required dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

The pH sample duplicate analysis data was performed on sample W-7-EB exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary

MS/MSD analysis data have been performed on samples MW-5B and MW-6. The MS/MSD for Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Sulfate MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample exceeded calibration range and were 4 times greater than the matrix spike concentration.

Job ID: 280-149186-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Holding times expired for Method SM 2540D Total Suspended Solids for samples W-3, W-6, W-5B, W-2B, MW-3, and MW-1B-DUP. These samples were originally analyzed within holding times but had to be reanalyzed outside of analytical holding time due to failure of quality control parameters in the initial analysis.

Holding times expired for Method SM 2540C Total Dissolved Solids for samples W-6, and MW-1B-DUP. These samples were originally analyzed within holding times but had to be reanalyzed outside of analytical holding time due to failure of quality control parameters in the initial analysis.

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

RADIUM-226 (GFPC)- Method 9315
Radium-226 was detected in method blank MB 160-513098/23-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

RADIUM-228- Method 9320 Radium-228 was detected in method blank MB 160-513102/23-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Revision
Original repor did not have workshare COCs included for this report.

Detection Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-11 — Lab Sample ID: 280-149186-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.7		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.24		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	4.1		1.0	0.58	mg/L	1		6020A	Total Recoverable
Chromium	0.0010	J	0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Lithium	0.056		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	330		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.36	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	14000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	23000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2A — Lab Sample ID: 280-149186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.024	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.019	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	470		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cadmium	0.0045	J	0.0050	0.00099	mg/L	5		6020A	Total Recoverable
Cobalt	0.012		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0061	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	2.2		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0070		0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	4.8		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	6.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	800		30	10	mg/L	10		9056A	Total/NA
Sulfate	49000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	71000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	48		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3 — Lab Sample ID: 280-149186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.6		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00079	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-3 (Continued)
Lab Sample ID: 280-149186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0018	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.048		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	460		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00070	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.026		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00055	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	0.0089		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00045	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.11		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	81		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.76		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	3600		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	130	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-6
Lab Sample ID: 280-149186-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	7.8		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0042	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.020	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	440		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0031	J	0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.32		0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.0047	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	0.23		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	190		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	2.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	5200		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	7500		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7 — Lab Sample ID: 280-149186-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.031	J	0.050	0.0075	mg/L	10		6020A	Total Recoverable
Barium	0.071	F1	0.050	0.022	mg/L	10		6020A	Total Recoverable
Calcium	470		10	5.8	mg/L	10		6020A	Total Recoverable
Cadmium	0.039		0.010	0.0020	mg/L	10		6020A	Total Recoverable
Cobalt	0.063		0.010	0.0019	mg/L	10		6020A	Total Recoverable
Chromium	0.021		0.020	0.0098	mg/L	10		6020A	Total Recoverable
Molybdenum	0.025	J	0.10	0.011	mg/L	10		6020A	Total Recoverable
Lead	0.037		0.010	0.0045	mg/L	10		6020A	Total Recoverable
Selenium	0.76		0.050	0.0089	mg/L	10		6020A	Total Recoverable
Thallium	0.038		0.010	0.0020	mg/L	10		6020A	Total Recoverable
Lithium	1.9		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1100		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.74		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	20000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	34000	H	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.8	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5B — Lab Sample ID: 280-149186-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.4		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.00087	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.019		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	470		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0011		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0035		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0018	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Thallium	0.00082	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.26		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	100		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.31	J	0.50	0.17	mg/L	1		9056A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-5B (Continued) — Lab Sample ID: 280-149186-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	3400		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	5300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-12 — Lab Sample ID: 280-149186-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.9		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.015	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	380		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.029		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Selenium	0.015	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0036	J	0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	2.1		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	840		300	100	mg/L	100		9056A	Total/NA
Fluoride	0.84		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	16000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	26000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-1B — Lab Sample ID: 280-149186-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Calcium	470		10	5.8	mg/L	10		6020A	Total Recoverable
Cadmium	0.0032	J	0.010	0.0020	mg/L	10		6020A	Total Recoverable
Cobalt	0.040		0.010	0.0019	mg/L	10		6020A	Total Recoverable
Selenium	0.60		0.050	0.0089	mg/L	10		6020A	Total Recoverable
Thallium	0.0037	J	0.010	0.0020	mg/L	10		6020A	Total Recoverable
Lithium	3.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	370		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.35	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	16000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	28000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2B
Lab Sample ID: 280-149186-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.7		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.025	J	0.10	0.015	mg/L	20		6020A	Total Recoverable
Calcium	360		20	12	mg/L	20		6020A	Total Recoverable
Cobalt	0.011	J	0.020	0.0038	mg/L	20		6020A	Total Recoverable
Selenium	1.3		0.10	0.018	mg/L	20		6020A	Total Recoverable
Lithium	4.8		0.16	0.033	mg/L	20		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	910		30	10	mg/L	10		9056A	Total/NA
Sulfate	49000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	91000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	14	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-2B
Lab Sample ID: 280-149186-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.3		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.019	J	0.10	0.015	mg/L	20		6020A	Total Recoverable
Calcium	480		20	12	mg/L	20		6020A	Total Recoverable
Cobalt	0.037		0.020	0.0038	mg/L	20		6020A	Total Recoverable
Selenium	2.2		0.10	0.018	mg/L	20		6020A	Total Recoverable
Thallium	0.012	J	0.020	0.0040	mg/L	20		6020A	Total Recoverable
Lithium	5.1		0.16	0.033	mg/L	20		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	540		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.52		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	26000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	46000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	7.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-3
Lab Sample ID: 280-149186-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.015	J	0.10	0.015	mg/L	20		6020A	Total Recoverable
Calcium	120		20	12	mg/L	20		6020A	Total Recoverable
Cadmium	0.011	J	0.020	0.0039	mg/L	20		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-3 (Continued) — Lab Sample ID: 280-149186-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.036		0.020	0.0038	mg/L	20		6020A	Total Recoverable
Selenium	0.48		0.10	0.018	mg/L	20		6020A	Total Recoverable
Lithium	2.1		0.16	0.033	mg/L	20		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	350		30	10	mg/L	10		9056A	Total/NA
Sulfate	30000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	51000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-4B — Lab Sample ID: 280-149186-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.70		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.00072	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	520		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00022	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0047		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.016		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.6		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.00043	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.72		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	200		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.35	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	2900		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	6300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	9.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 280-149186-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.0085	J	0.050	0.0075	mg/L	10		6020A	Total Recoverable
Barium	0.023	J	0.050	0.022	mg/L	10		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-5 (Continued) — Lab Sample ID: 280-149186-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	400		10	5.8	mg/L	10		6020A	Total Recoverable
Cobalt	0.0029	J	0.010	0.0019	mg/L	10		6020A	Total Recoverable
Selenium	0.16		0.050	0.0089	mg/L	10		6020A	Total Recoverable
Thallium	0.0042	J	0.010	0.0020	mg/L	10		6020A	Total Recoverable
Lithium	3.1		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1500		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.82		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	18000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	31000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	3.2	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 280-149186-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.011		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.0075		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	400		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00061	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0093	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	1.0		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.19		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	240		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.62		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3900		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6800		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	5.2		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-1B-DUP — Lab Sample ID: 280-149186-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.1		0.10	0.023	mg/L	1		6010C	Total Recoverable
Arsenic	0.022	J	0.10	0.015	mg/L	20		6020A	Total Recoverable
Calcium	140		20	12	mg/L	20		6020A	Total Recoverable
Cobalt	0.037		0.020	0.0038	mg/L	20		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-1B-DUP (Continued) — Lab Sample ID: 280-149186-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.57		0.10	0.018	mg/L	20		6020A	Total Recoverable
Lithium	3.2		0.16	0.033	mg/L	20		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	380		30	10	mg/L	10		9056A	Total/NA
Fluoride	0.36	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	18000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	30000	H	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.8	H	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-9 — Lab Sample ID: 280-149186-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.6		0.10	0.023	mg/L	1		6010C	Total Recoverable
Barium	0.016	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	380		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0058		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Selenium	0.0055	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	0.96		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	280	J	300	100	mg/L	100		9056A	Total/NA
Fluoride	0.32	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	10000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	15000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	10		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-7-EB — Lab Sample ID: 280-149186-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	8.0	J	10	4.7	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None
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.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-149186-1	W-11	Water	05/27/21 13:45	05/28/21 13:30
280-149186-2	W-2A	Water	05/26/21 16:20	05/28/21 13:30
280-149186-3	W-3	Water	05/27/21 13:20	05/28/21 13:30
280-149186-4	W-6	Water	05/25/21 15:15	05/28/21 13:30
280-149186-5	W-7	Water	05/27/21 10:00	05/28/21 13:30
280-149186-6	W-5B	Water	05/26/21 10:50	05/28/21 13:30
280-149186-7	W-12	Water	05/28/21 08:50	05/28/21 13:30
280-149186-8	MW-1B	Water	05/26/21 12:45	05/28/21 13:30
280-149186-9	W-2B	Water	05/26/21 12:45	05/28/21 13:30
280-149186-10	MW-2B	Water	05/27/21 11:35	05/28/21 13:30
280-149186-11	MW-3	Water	05/26/21 15:45	05/28/21 13:30
280-149186-12	MW-4B	Water	05/25/21 14:50	05/28/21 13:30
280-149186-13	MW-5	Water	05/28/21 08:00	05/28/21 13:30
280-149186-14	MW-6	Water	05/26/21 09:30	05/28/21 13:30
280-149186-15	MW-1B-DUP	Water	05/26/21 13:00	05/28/21 13:30
280-149186-16	W-9	Water	05/27/21 08:45	05/28/21 13:30
280-149186-17	W-7-EB	Water	05/27/21 10:40	05/28/21 13:30

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.7		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:10	1

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.1		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:23	1

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:10	1

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.8		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:28	1

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.9		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 11:44	1

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.4		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:32	1

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.9		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:45	1

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:14	1

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	5.7		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:19	1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.3		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:24	1

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.2		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:28	1

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.70		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:50	1

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 11:57	1

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:54	1

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:33	1

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.6		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 15:59	1

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 16:03	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/08/21 14:00	06/17/21 23:47	1
Arsenic	ND		0.0050	0.00075	mg/L		06/08/21 14:00	06/17/21 23:47	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.24**		0.0050	0.0022	mg/L		06/08/21 14:00	06/17/21 23:47	1
Calcium	**4.1**		1.0	0.58	mg/L		06/08/21 14:00	06/17/21 23:47	1
Cadmium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:47	1
Cobalt	ND		0.0010	0.00019	mg/L		06/08/21 14:00	06/17/21 23:47	1
Chromium	**0.0010**	**J**	0.0020	0.00098	mg/L		06/08/21 14:00	06/17/21 23:47	1
Molybdenum	ND		0.010	0.0011	mg/L		06/08/21 14:00	06/17/21 23:47	1
Lead	ND		0.0010	0.00045	mg/L		06/08/21 14:00	06/17/21 23:47	1
Selenium	ND		0.0050	0.00089	mg/L		06/08/21 14:00	06/17/21 23:47	1
Thallium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:47	1
Lithium	**0.056**		0.0080	0.0017	mg/L		06/08/21 14:00	06/17/21 23:47	1

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/10/21 19:47	5
Arsenic	**0.024**	**J**	0.025	0.0038	mg/L		06/07/21 14:00	06/10/21 19:47	5
Barium	**0.019**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/10/21 19:47	5
Calcium	**470**		5.0	2.9	mg/L		06/07/21 14:00	06/10/21 19:47	5
Cadmium	**0.0045**	**J**	0.0050	0.00099	mg/L		06/07/21 14:00	06/10/21 19:47	5
Cobalt	**0.012**		0.0050	0.00095	mg/L		06/07/21 14:00	06/10/21 19:47	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/10/21 19:47	5
Molybdenum	**0.0061**	**J**	0.050	0.0054	mg/L		06/07/21 14:00	06/10/21 19:47	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/10/21 19:47	5
Selenium	**2.2**		0.025	0.0045	mg/L		06/07/21 14:00	06/10/21 19:47	5
Thallium	**0.0070**		0.0050	0.0010	mg/L		06/07/21 14:00	06/10/21 19:47	5
Lithium	**4.8**		0.040	0.0083	mg/L		06/07/21 14:00	06/10/21 19:47	5

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00079**	**J**	0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 19:29	1
Arsenic	**0.0018**	**J**	0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 19:29	1
Barium	**0.048**		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 19:29	1
Calcium	**460**		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 19:29	1
Cadmium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:29	1
Cobalt	**0.00070**	**J**	0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 19:29	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 19:29	1
Molybdenum	**0.026**		0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 19:29	1
Lead	**0.00055**	**J**	0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 19:29	1
Selenium	**0.0089**		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 19:29	1
Thallium	**0.00045**	**J**	0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:29	1
Lithium	**0.11**		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 19:29	1

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/10/21 19:49	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0042**	**J**	0.025	0.0038	mg/L		06/07/21 14:00	06/10/21 19:49	5
Barium	**0.020**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/10/21 19:49	5
Calcium	**440**		5.0	2.9	mg/L		06/07/21 14:00	06/10/21 19:49	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/10/21 19:49	5
Cobalt	**0.0031**	**J**	0.0050	0.00095	mg/L		06/07/21 14:00	06/10/21 19:49	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/10/21 19:49	5
Molybdenum	**0.32**		0.050	0.0054	mg/L		06/07/21 14:00	06/10/21 19:49	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/10/21 19:49	5
Selenium	**0.0047**	**J**	0.025	0.0045	mg/L		06/07/21 14:00	06/10/21 19:49	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/10/21 19:49	5
Lithium	**0.23**		0.040	0.0083	mg/L		06/07/21 14:00	06/10/21 19:49	5

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		06/08/21 14:00	06/17/21 23:32	10
Arsenic	**0.031**	**J**	0.050	0.0075	mg/L		06/08/21 14:00	06/17/21 23:32	10
Barium	**0.071**	**F1**	0.050	0.022	mg/L		06/08/21 14:00	06/17/21 23:32	10
Calcium	**470**		10	5.8	mg/L		06/08/21 14:00	06/17/21 23:32	10
Cadmium	**0.039**		0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:32	10
Cobalt	**0.063**		0.010	0.0019	mg/L		06/08/21 14:00	06/17/21 23:32	10
Chromium	**0.021**		0.020	0.0098	mg/L		06/08/21 14:00	06/17/21 23:32	10
Molybdenum	**0.025**	**J**	0.10	0.011	mg/L		06/08/21 14:00	06/17/21 23:32	10
Lead	**0.037**		0.010	0.0045	mg/L		06/08/21 14:00	06/17/21 23:32	10
Selenium	**0.76**		0.050	0.0089	mg/L		06/08/21 14:00	06/17/21 23:32	10
Thallium	**0.038**		0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:32	10
Lithium	**1.9**		0.080	0.017	mg/L		06/08/21 14:00	06/17/21 23:32	10

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 19:52	1
Arsenic	**0.00087**	**J**	0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 19:52	1
Barium	**0.019**		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 19:52	1
Calcium	**470**		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 19:52	1
Cadmium	**0.0011**		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:52	1
Cobalt	**0.0035**		0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 19:52	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 19:52	1
Molybdenum	**0.0018**	**J**	0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 19:52	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 19:52	1
Selenium	ND		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 19:52	1
Thallium	**0.00082**	**J**	0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:52	1
Lithium	**0.26**		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 19:52	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/10/21 19:54	5
Arsenic	ND		0.025	0.0038	mg/L		06/07/21 14:00	06/10/21 19:54	5
Barium	**0.015**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/10/21 19:54	5
Calcium	**380**		5.0	2.9	mg/L		06/07/21 14:00	06/10/21 19:54	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/10/21 19:54	5
Cobalt	**0.029**		0.0050	0.00095	mg/L		06/07/21 14:00	06/10/21 19:54	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/10/21 19:54	5
Molybdenum	ND		0.050	0.0054	mg/L		06/07/21 14:00	06/10/21 19:54	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/10/21 19:54	5
Selenium	**0.015**	**J**	0.025	0.0045	mg/L		06/07/21 14:00	06/10/21 19:54	5
Thallium	**0.0036**	**J**	0.0050	0.0010	mg/L		06/07/21 14:00	06/10/21 19:54	5
Lithium	**2.1**		0.040	0.0083	mg/L		06/07/21 14:00	06/10/21 19:54	5

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		06/08/21 14:00	06/17/21 23:54	10
Arsenic	ND		0.050	0.0075	mg/L		06/08/21 14:00	06/17/21 23:54	10
Barium	ND		0.050	0.022	mg/L		06/08/21 14:00	06/17/21 23:54	10
Calcium	**470**		10	5.8	mg/L		06/08/21 14:00	06/17/21 23:54	10
Cadmium	**0.0032**	**J**	0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:54	10
Cobalt	**0.040**		0.010	0.0019	mg/L		06/08/21 14:00	06/17/21 23:54	10
Chromium	ND		0.020	0.0098	mg/L		06/08/21 14:00	06/17/21 23:54	10
Molybdenum	ND		0.10	0.011	mg/L		06/08/21 14:00	06/17/21 23:54	10
Lead	ND		0.010	0.0045	mg/L		06/08/21 14:00	06/17/21 23:54	10
Selenium	**0.60**		0.050	0.0089	mg/L		06/08/21 14:00	06/17/21 23:54	10
Thallium	**0.0037**	**J**	0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:54	10
Lithium	**3.1**		0.080	0.017	mg/L		06/08/21 14:00	06/17/21 23:54	10

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.040	0.011	mg/L		06/08/21 14:00	06/17/21 23:57	20
Arsenic	**0.025**	**J**	0.10	0.015	mg/L		06/08/21 14:00	06/17/21 23:57	20
Barium	ND		0.10	0.045	mg/L		06/08/21 14:00	06/17/21 23:57	20
Calcium	**360**		20	12	mg/L		06/08/21 14:00	06/17/21 23:57	20
Cadmium	ND		0.020	0.0039	mg/L		06/08/21 14:00	06/17/21 23:57	20
Cobalt	**0.011**	**J**	0.020	0.0038	mg/L		06/08/21 14:00	06/17/21 23:57	20
Chromium	ND		0.040	0.020	mg/L		06/08/21 14:00	06/17/21 23:57	20
Molybdenum	ND		0.20	0.022	mg/L		06/08/21 14:00	06/17/21 23:57	20
Lead	ND		0.020	0.0090	mg/L		06/08/21 14:00	06/17/21 23:57	20
Selenium	**1.3**		0.10	0.018	mg/L		06/08/21 14:00	06/17/21 23:57	20
Thallium	ND		0.020	0.0040	mg/L		06/08/21 14:00	06/17/21 23:57	20
Lithium	**4.8**		0.16	0.033	mg/L		06/08/21 14:00	06/17/21 23:57	20

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.040	0.011	mg/L		06/08/21 14:00	06/18/21 00:00	20
Arsenic	**0.019**	**J**	0.10	0.015	mg/L		06/08/21 14:00	06/18/21 00:00	20
Barium	ND		0.10	0.045	mg/L		06/08/21 14:00	06/18/21 00:00	20
Calcium	**480**		20	12	mg/L		06/08/21 14:00	06/18/21 00:00	20
Cadmium	ND		0.020	0.0039	mg/L		06/08/21 14:00	06/18/21 00:00	20
Cobalt	**0.037**		0.020	0.0038	mg/L		06/08/21 14:00	06/18/21 00:00	20
Chromium	ND		0.040	0.020	mg/L		06/08/21 14:00	06/18/21 00:00	20
Molybdenum	ND		0.20	0.022	mg/L		06/08/21 14:00	06/18/21 00:00	20
Lead	ND		0.020	0.0090	mg/L		06/08/21 14:00	06/18/21 00:00	20
Selenium	**2.2**		0.10	0.018	mg/L		06/08/21 14:00	06/18/21 00:00	20
Thallium	**0.012**	**J**	0.020	0.0040	mg/L		06/08/21 14:00	06/18/21 00:00	20
Lithium	**5.1**		0.16	0.033	mg/L		06/08/21 14:00	06/18/21 00:00	20

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.040	0.011	mg/L		06/08/21 14:00	06/18/21 00:02	20
Arsenic	**0.015**	**J**	0.10	0.015	mg/L		06/08/21 14:00	06/18/21 00:02	20
Barium	ND		0.10	0.045	mg/L		06/08/21 14:00	06/18/21 00:02	20
Calcium	**120**		20	12	mg/L		06/08/21 14:00	06/18/21 00:02	20
Cadmium	**0.011**	**J**	0.020	0.0039	mg/L		06/08/21 14:00	06/18/21 00:02	20
Cobalt	**0.036**		0.020	0.0038	mg/L		06/08/21 14:00	06/18/21 00:02	20
Chromium	ND		0.040	0.020	mg/L		06/08/21 14:00	06/18/21 00:02	20
Molybdenum	ND		0.20	0.022	mg/L		06/08/21 14:00	06/18/21 00:02	20
Lead	ND		0.020	0.0090	mg/L		06/08/21 14:00	06/18/21 00:02	20
Selenium	**0.48**		0.10	0.018	mg/L		06/08/21 14:00	06/18/21 00:02	20
Thallium	ND		0.020	0.0040	mg/L		06/08/21 14:00	06/18/21 00:02	20
Lithium	**2.1**		0.16	0.033	mg/L		06/08/21 14:00	06/18/21 00:02	20

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00072**	**J**	0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 19:57	1
Arsenic	**0.014**		0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 19:57	1
Barium	**0.022**		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 19:57	1
Calcium	**520**		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 19:57	1
Cadmium	**0.00022**	**J**	0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:57	1
Cobalt	**0.0047**		0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 19:57	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 19:57	1
Molybdenum	**0.016**		0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 19:57	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 19:57	1
Selenium	**1.6**		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 19:57	1
Thallium	**0.00043**	**J**	0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:57	1
Lithium	**0.72**		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 19:57	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0057	mg/L		06/08/21 14:00	06/17/21 23:44	10
Arsenic	**0.0085**	**J**	0.050	0.0075	mg/L		06/08/21 14:00	06/17/21 23:44	10
Barium	**0.023**	**J**	0.050	0.022	mg/L		06/08/21 14:00	06/17/21 23:44	10
Calcium	**400**		10	5.8	mg/L		06/08/21 14:00	06/17/21 23:44	10
Cadmium	ND		0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:44	10
Cobalt	**0.0029**	**J**	0.010	0.0019	mg/L		06/08/21 14:00	06/17/21 23:44	10
Chromium	ND		0.020	0.0098	mg/L		06/08/21 14:00	06/17/21 23:44	10
Molybdenum	ND		0.10	0.011	mg/L		06/08/21 14:00	06/17/21 23:44	10
Lead	ND		0.010	0.0045	mg/L		06/08/21 14:00	06/17/21 23:44	10
Selenium	**0.16**		0.050	0.0089	mg/L		06/08/21 14:00	06/17/21 23:44	10
Thallium	**0.0042**	**J**	0.010	0.0020	mg/L		06/08/21 14:00	06/17/21 23:44	10
Lithium	**3.1**		0.080	0.017	mg/L		06/08/21 14:00	06/17/21 23:44	10

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 20:00	1
Arsenic	**0.011**		0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 20:00	1
Barium	**0.0075**		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 20:00	1
Calcium	**400**		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 20:00	1
Cadmium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 20:00	1
Cobalt	**0.00061**	**J**	0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 20:00	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 20:00	1
Molybdenum	**0.0093**	**J**	0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 20:00	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 20:00	1
Selenium	**1.0**		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 20:00	1
Thallium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 20:00	1
Lithium	**0.19**		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 20:00	1

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.040	0.011	mg/L		06/08/21 14:00	06/18/21 00:05	20
Arsenic	**0.022**	**J**	0.10	0.015	mg/L		06/08/21 14:00	06/18/21 00:05	20
Barium	ND		0.10	0.045	mg/L		06/08/21 14:00	06/18/21 00:05	20
Calcium	**140**		20	12	mg/L		06/08/21 14:00	06/18/21 00:05	20
Cadmium	ND		0.020	0.0039	mg/L		06/08/21 14:00	06/18/21 00:05	20
Cobalt	**0.037**		0.020	0.0038	mg/L		06/08/21 14:00	06/18/21 00:05	20
Chromium	ND		0.040	0.020	mg/L		06/08/21 14:00	06/18/21 00:05	20
Molybdenum	ND		0.20	0.022	mg/L		06/08/21 14:00	06/18/21 00:05	20
Lead	ND		0.020	0.0090	mg/L		06/08/21 14:00	06/18/21 00:05	20
Selenium	**0.57**		0.10	0.018	mg/L		06/08/21 14:00	06/18/21 00:05	20
Thallium	ND		0.020	0.0040	mg/L		06/08/21 14:00	06/18/21 00:05	20
Lithium	**3.2**		0.16	0.033	mg/L		06/08/21 14:00	06/18/21 00:05	20

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/10/21 20:02	5
Arsenic	ND		0.025	0.0038	mg/L		06/07/21 14:00	06/10/21 20:02	5
Barium	**0.016**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/10/21 20:02	5
Calcium	**380**		5.0	2.9	mg/L		06/07/21 14:00	06/10/21 20:02	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/10/21 20:02	5
Cobalt	**0.0058**		0.0050	0.00095	mg/L		06/07/21 14:00	06/10/21 20:02	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/10/21 20:02	5
Molybdenum	ND		0.050	0.0054	mg/L		06/07/21 14:00	06/10/21 20:02	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/10/21 20:02	5
Selenium	**0.0055**	**J**	0.025	0.0045	mg/L		06/07/21 14:00	06/10/21 20:02	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/10/21 20:02	5
Lithium	**0.96**		0.040	0.0083	mg/L		06/07/21 14:00	06/10/21 20:02	5

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 20:05	1
Arsenic	ND		0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 20:05	1
Barium	ND		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 20:05	1
Calcium	ND		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 20:05	1
Cadmium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 20:05	1
Cobalt	ND		0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 20:05	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 20:05	1
Molybdenum	ND		0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 20:05	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 20:05	1
Selenium	ND		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 20:05	1
Thallium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 20:05	1
Lithium	ND		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 20:05	1

General Chemistry

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.1**	**HF**	0.1	0.1	SU			06/01/21 14:09	1
Temperature	**20.9**	**HF**	1.0	1.0	Degrees C			06/01/21 14:09	1
Chloride	**330**		15	5.1	mg/L			06/21/21 17:47	5
Fluoride	**0.36**	**J**	0.50	0.17	mg/L			06/21/21 17:33	1
Sulfate	**14000**		500	100	mg/L			06/21/21 18:01	100
Total Dissolved Solids (TDS)	**23000**		1000	470	mg/L			06/01/21 09:58	1
Total Suspended Solids	**7.2**		4.0	1.1	mg/L			06/02/21 08:35	1

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**6.8**	**HF**	0.1	0.1	SU			06/01/21 14:12	1
Temperature	**19.7**	**HF**	1.0	1.0	Degrees C			06/01/21 14:12	1

General Chemistry (Continued)

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	800		30	10	mg/L			06/21/21 18:29	10
Fluoride	ND		0.50	0.17	mg/L			06/21/21 18:15	1
Sulfate	49000		5000	1000	mg/L			06/21/21 18:43	1000
Total Dissolved Solids (TDS)	71000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	48		4.0	1.1	mg/L			06/02/21 08:35	1

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			06/01/21 14:16	1
Temperature	20.1	HF	1.0	1.0	Degrees C			06/01/21 14:16	1
Chloride	81		3.0	1.0	mg/L			06/21/21 20:20	1
Fluoride	0.76		0.50	0.17	mg/L			06/21/21 20:20	1
Sulfate	2000		1000	210	mg/L			06/21/21 20:49	200
Total Dissolved Solids (TDS)	3600		40	19	mg/L			06/01/21 10:02	1
Total Suspended Solids	130	H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			06/01/21 14:20	1
Temperature	19.6	HF	1.0	1.0	Degrees C			06/01/21 14:20	1
Chloride	190		3.0	1.0	mg/L			06/21/21 21:03	1
Fluoride	2.9		0.50	0.17	mg/L			06/21/21 21:03	1
Sulfate	5200		2500	520	mg/L			06/21/21 21:31	500
Total Dissolved Solids (TDS)	7500		100	47	mg/L			06/01/21 10:02	1
Total Suspended Solids	3.2	J	4.0	1.1	mg/L			06/01/21 18:52	1

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			06/01/21 14:23	1
Temperature	19.8	HF	1.0	1.0	Degrees C			06/01/21 14:23	1
Chloride	1100		30	10	mg/L			06/22/21 00:19	10
Fluoride	0.74		0.50	0.17	mg/L			06/22/21 00:05	1
Sulfate	20000		2500	520	mg/L			06/23/21 04:07	500
Total Dissolved Solids (TDS)	34000	H	1000	470	mg/L			06/10/21 11:10	1
Total Suspended Solids	6.8	H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			06/01/21 14:27	1
Temperature	20.0	HF	1.0	1.0	Degrees C			06/01/21 14:27	1
Chloride	100		3.0	1.0	mg/L			06/21/21 21:45	1
Fluoride	0.31	J	0.50	0.17	mg/L			06/21/21 21:45	1

General Chemistry (Continued)

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3400		250	52	mg/L			06/21/21 23:09	50
Total Dissolved Solids (TDS)	5300		40	19	mg/L			06/01/21 10:02	1
Total Suspended Solids	1.6	J H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 14:35	1
Temperature	20.7	HF	1.0	1.0	Degrees C			06/01/21 14:35	1
Chloride	840		300	100	mg/L			06/22/21 09:10	100
Fluoride	0.84		0.50	0.17	mg/L			06/22/21 08:56	1
Sulfate	16000		500	100	mg/L			06/22/21 09:10	100
Total Dissolved Solids (TDS)	26000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	9.6		4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 14:38	1
Temperature	20.2	HF	1.0	1.0	Degrees C			06/01/21 14:38	1
Chloride	370		30	10	mg/L			06/22/21 01:01	10
Fluoride	0.35	J	0.50	0.17	mg/L			06/22/21 00:47	1
Sulfate	16000		2500	520	mg/L			06/22/21 01:15	500
Total Dissolved Solids (TDS)	28000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	3.6	J	4.0	1.1	mg/L			06/02/21 08:35	1

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			06/01/21 14:42	1
Temperature	20.1	HF	1.0	1.0	Degrees C			06/01/21 14:42	1
Chloride	910		30	10	mg/L			06/22/21 02:11	10
Fluoride	ND		0.50	0.17	mg/L			06/22/21 01:57	1
Sulfate	49000		5000	1000	mg/L			06/22/21 02:25	1000
Total Dissolved Solids (TDS)	91000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	14	H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 14:46	1
Temperature	19.9	HF	1.0	1.0	Degrees C			06/01/21 14:46	1
Chloride	540		30	10	mg/L			06/22/21 02:53	10
Fluoride	0.52		0.50	0.17	mg/L			06/22/21 02:39	1
Sulfate	26000		5000	1000	mg/L			06/22/21 03:07	1000
Total Dissolved Solids (TDS)	46000		1000	470	mg/L			06/01/21 10:02	1

General Chemistry (Continued)

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	7.2		4.0	1.1	mg/L			06/02/21 08:35	1

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 14:50	1
Temperature	20.0	HF	1.0	1.0	Degrees C			06/01/21 14:50	1
Chloride	350		30	10	mg/L			06/22/21 05:54	10
Fluoride	ND		0.50	0.17	mg/L			06/22/21 05:40	1
Sulfate	30000		2500	520	mg/L			06/22/21 06:08	500
Total Dissolved Solids (TDS)	51000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	2.8	J H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 14:53	1
Temperature	20.4	HF	1.0	1.0	Degrees C			06/01/21 14:53	1
Chloride	200		3.0	1.0	mg/L			06/22/21 06:22	1
Fluoride	0.35	J	0.50	0.17	mg/L			06/22/21 06:22	1
Sulfate	2900		500	100	mg/L			06/22/21 06:50	100
Total Dissolved Solids (TDS)	6300		40	19	mg/L			06/01/21 10:02	1
Total Suspended Solids	9.2		4.0	1.1	mg/L			06/01/21 18:52	1

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			06/01/21 14:57	1
Temperature	21.0	HF	1.0	1.0	Degrees C			06/01/21 14:57	1
Chloride	1500		30	10	mg/L			06/22/21 07:46	10
Fluoride	0.82		0.50	0.17	mg/L			06/22/21 07:32	1
Sulfate	18000		1000	210	mg/L			06/22/21 08:00	200
Total Dissolved Solids (TDS)	31000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	3.2	J	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			06/01/21 15:01	1
Temperature	21.4	HF	1.0	1.0	Degrees C			06/01/21 15:01	1
Chloride	240		30	10	mg/L			06/22/21 04:44	10
Fluoride	0.62		0.50	0.17	mg/L			06/22/21 03:20	1
Sulfate	3900		250	52	mg/L			06/23/21 04:24	50
Total Dissolved Solids (TDS)	6800		100	47	mg/L			06/01/21 10:02	1
Total Suspended Solids	5.2		4.0	1.1	mg/L			06/02/21 08:35	1

General Chemistry

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			06/01/21 15:05	1
Temperature	20.7	HF	1.0	1.0	Degrees C			06/01/21 15:05	1
Chloride	380		30	10	mg/L			06/22/21 08:28	10
Fluoride	0.36	J	0.50	0.17	mg/L			06/22/21 08:14	1
Sulfate	18000		1000	210	mg/L			06/22/21 08:42	200
Total Dissolved Solids (TDS)	30000	H	1000	470	mg/L			06/07/21 11:52	1
Total Suspended Solids	4.8	H	4.0	1.1	mg/L			06/04/21 09:54	1

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			06/01/21 15:08	1
Temperature	20.4	HF	1.0	1.0	Degrees C			06/01/21 15:08	1
Chloride	280	J	300	100	mg/L			06/22/21 09:38	100
Fluoride	0.32	J	0.50	0.17	mg/L			06/22/21 09:24	1
Sulfate	10000		500	100	mg/L			06/22/21 09:38	100
Total Dissolved Solids (TDS)	15000		1000	470	mg/L			06/01/21 10:02	1
Total Suspended Solids	10		4.0	1.1	mg/L			06/02/21 08:33	1

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.8	HF	0.1	0.1	SU			06/01/21 15:23	1
Temperature	21.1	HF	1.0	1.0	Degrees C			06/01/21 15:23	1
Chloride	ND		3.0	1.0	mg/L			06/21/21 18:57	1
Fluoride	ND		0.50	0.17	mg/L			06/21/21 18:57	1
Sulfate	ND		5.0	1.0	mg/L			06/21/21 18:57	1
Total Dissolved Solids (TDS)	8.0	J	10	4.7	mg/L			06/01/21 10:02	1
Total Suspended Solids	ND		4.0	1.1	mg/L			06/02/21 08:33	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.50		0.383	0.406	1.00	0.327	pCi/L	06/04/21 16:30	06/29/21 07:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*54.2*		*40 - 110*	*06/04/21 16:30*	*06/29/21 07:11*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.57**		0.580	0.597	1.00	0.599	pCi/L	06/04/21 16:30	06/29/21 10:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*25.5*	*X*	*40 - 110*	*06/04/21 16:30*	*06/29/21 10:57*	*1*

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.112	U	0.133	0.133	1.00	0.217	pCi/L	06/04/21 16:30	06/29/21 10:57	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.7*		*40 - 110*	*06/04/21 16:30*	*06/29/21 10:57*	*1*

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.209	U	0.156	0.157	1.00	0.226	pCi/L	06/04/21 16:30	06/29/21 10:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.7*		*40 - 110*	*06/04/21 16:30*	*06/29/21 10:58*	*1*

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.22**		0.439	0.452	1.00	0.466	pCi/L	06/04/21 16:30	06/29/21 10:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*38.0*	*X*	*40 - 110*	*06/04/21 16:30*	*06/29/21 10:58*	*1*

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.05**		0.269	0.285	1.00	0.223	pCi/L	06/04/21 16:30	06/29/21 10:58	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*77.3*		*40 - 110*	*06/04/21 16:30*	*06/29/21 10:58*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.536		0.229	0.234	1.00	0.260	pCi/L	06/07/21 09:17	06/30/21 07:29	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110	06/07/21 09:17	06/30/21 07:29	1

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.801		0.287	0.296	1.00	0.290	pCi/L	06/04/21 16:30	06/29/21 13:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	55.5		40 - 110	06/04/21 16:30	06/29/21 13:16	1

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.49		0.584	0.663	1.00	0.353	pCi/L	06/04/21 16:30	06/29/21 13:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	48.3		40 - 110	06/04/21 16:30	06/29/21 13:16	1

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.07		0.303	0.318	1.00	0.283	pCi/L	06/07/21 09:17	06/30/21 07:30	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.4		40 - 110	06/07/21 09:17	06/30/21 07:30	1

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.08		0.275	0.292	1.00	0.231	pCi/L	06/04/21 16:30	06/29/21 13:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.6		40 - 110	06/04/21 16:30	06/29/21 13:16	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.525		0.215	0.220	1.00	0.245	pCi/L	06/04/21 16:30	06/29/21 13:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	76.9		40 - 110	06/04/21 16:30	06/29/21 13:16	1

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.152	U	0.167	0.167	1.00	0.269	pCi/L	06/07/21 09:17	06/30/21 07:31	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.0		40 - 110	06/07/21 09:17	06/30/21 07:31	1

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.456		0.157	0.162	1.00	0.157	pCi/L	06/04/21 16:30	06/29/21 13:16	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110	06/04/21 16:30	06/29/21 13:16	1

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.842		0.269	0.280	1.00	0.270	pCi/L	06/07/21 09:17	06/30/21 07:32	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.2		40 - 110	06/07/21 09:17	06/30/21 07:32	1

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.783		0.219	0.230	1.00	0.188	pCi/L	06/04/21 16:30	06/29/21 15:37	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.7		40 - 110	06/04/21 16:30	06/29/21 15:37	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0443	U	0.0928	0.0929	1.00	0.167	pCi/L	06/04/21 16:30	06/29/21 15:37	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*80.7*		*40 - 110*	*06/04/21 16:30*	*06/29/21 15:37*	*1*

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.93**		0.652	0.675	1.00	0.860	pCi/L	06/04/21 16:58	06/25/21 10:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*54.2*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:34*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:34*	*1*

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**5.44**	**G**	1.54	1.62	1.00	1.96	pCi/L	06/04/21 16:58	06/25/21 10:34	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*25.5*	*X*	*40 - 110*	*06/04/21 16:58*	*06/25/21 10:34*	*1*
Y Carrier	*87.5*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:34*	*1*

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.434	U	0.443	0.444	1.00	0.722	pCi/L	06/04/21 16:58	06/25/21 10:35	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*84.7*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:35*	*1*
Y Carrier	*88.4*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:35*	*1*

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.33**		0.462	0.478	1.00	0.633	pCi/L	06/04/21 16:58	06/25/21 10:35	1

Method: 9320 - Radium-228 (GFPC)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	84.7		40 - 110	06/04/21 16:58	06/25/21 10:35	1
Y Carrier	88.1		40 - 110	06/04/21 16:58	06/25/21 10:35	1

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.964	U G	0.834	0.839	1.00	1.33	pCi/L	06/04/21 16:58	06/25/21 10:35	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	38.0	X	40 - 110	06/04/21 16:58	06/25/21 10:35	1
Y Carrier	85.7		40 - 110	06/04/21 16:58	06/25/21 10:35	1

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.37**		0.483	0.499	1.00	0.656	pCi/L	06/04/21 16:58	06/25/21 10:35	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	77.3		40 - 110	06/04/21 16:58	06/25/21 10:35	1
Y Carrier	88.4		40 - 110	06/04/21 16:58	06/25/21 10:35	1

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.70**		0.422	0.450	1.00	0.519	pCi/L	06/07/21 10:13	06/28/21 13:45	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110	06/07/21 10:13	06/28/21 13:45	1
Y Carrier	93.5		40 - 110	06/07/21 10:13	06/28/21 13:45	1

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.55**		0.643	0.659	1.00	0.915	pCi/L	06/04/21 16:58	06/25/21 10:35	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	55.5		40 - 110	06/04/21 16:58	06/25/21 10:35	1
Y Carrier	90.5		40 - 110	06/04/21 16:58	06/25/21 10:35	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	5.39		0.934	1.06	1.00	0.942	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*48.3*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*
Y Carrier	*92.3*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.53		0.457	0.513	1.00	0.497	pCi/L	06/07/21 10:13	06/28/21 13:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.4*		*40 - 110*	*06/07/21 10:13*	*06/28/21 13:45*	*1*
Y Carrier	*95.8*		*40 - 110*	*06/07/21 10:13*	*06/28/21 13:45*	*1*

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.32		0.429	0.446	1.00	0.559	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*81.6*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*
Y Carrier	*89.6*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.979		0.433	0.442	1.00	0.618	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*76.9*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*
Y Carrier	*89.9*		*40 - 110*	*06/04/21 16:58*	*06/25/21 10:36*	*1*

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.709		0.319	0.325	1.00	0.454	pCi/L	06/07/21 10:13	06/28/21 13:45	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.0		40 - 110	06/07/21 10:13	06/28/21 13:45	1
Y Carrier	95.2		40 - 110	06/07/21 10:13	06/28/21 13:45	1

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.668		0.294	0.300	1.00	0.416	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.9		40 - 110	06/04/21 16:58	06/25/21 10:36	1
Y Carrier	89.9		40 - 110	06/04/21 16:58	06/25/21 10:36	1

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.21		0.371	0.387	1.00	0.474	pCi/L	06/07/21 10:13	06/28/21 13:45	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.2		40 - 110	06/07/21 10:13	06/28/21 13:45	1
Y Carrier	93.5		40 - 110	06/07/21 10:13	06/28/21 13:45	1

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.984		0.363	0.374	1.00	0.491	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.7		40 - 110	06/04/21 16:58	06/25/21 10:36	1
Y Carrier	92.3		40 - 110	06/04/21 16:58	06/25/21 10:36	1

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30

Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0481	U	0.259	0.259	1.00	0.456	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	80.7		40 - 110	06/04/21 16:58	06/25/21 10:36	1
Y Carrier	90.5		40 - 110	06/04/21 16:58	06/25/21 10:36	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-11
Date Collected: 05/27/21 13:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.43		0.756	0.788	5.00	0.860	pCi/L		06/29/21 21:08	1

Client Sample ID: W-2A
Date Collected: 05/26/21 16:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	7.01		1.65	1.73	5.00	1.96	pCi/L		06/29/21 21:08	1

Client Sample ID: W-3
Date Collected: 05/27/21 13:20
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.547	U	0.463	0.463	5.00	0.722	pCi/L		06/29/21 21:08	1

Client Sample ID: W-6
Date Collected: 05/25/21 15:15
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.54		0.488	0.503	5.00	0.633	pCi/L		06/29/21 21:08	1

Client Sample ID: W-7
Date Collected: 05/27/21 10:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.19		0.942	0.953	5.00	1.33	pCi/L		06/29/21 21:08	1

Client Sample ID: W-5B
Date Collected: 05/26/21 10:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.41		0.553	0.575	5.00	0.656	pCi/L		06/29/21 21:08	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-12
Date Collected: 05/28/21 08:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.23		0.480	0.507	5.00	0.519	pCi/L		06/30/21 16:38	1

Client Sample ID: MW-1B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.36		0.704	0.722	5.00	0.915	pCi/L		06/29/21 21:08	1

Client Sample ID: W-2B
Date Collected: 05/26/21 12:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	8.88		1.10	1.25	5.00	0.942	pCi/L		06/29/21 21:08	1

Client Sample ID: MW-2B
Date Collected: 05/27/21 11:35
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.60		0.548	0.604	5.00	0.497	pCi/L		06/30/21 16:38	1

Client Sample ID: MW-3
Date Collected: 05/26/21 15:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.40		0.510	0.533	5.00	0.559	pCi/L		06/29/21 21:08	1

Client Sample ID: MW-4B
Date Collected: 05/25/21 14:50
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.50		0.483	0.494	5.00	0.618	pCi/L		06/29/21 21:08	1

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: MW-5
Date Collected: 05/28/21 08:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-13
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.861		0.360	0.365	5.00	0.454	pCi/L		06/30/21 16:38	1

Client Sample ID: MW-6
Date Collected: 05/26/21 09:30
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-14
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.12		0.333	0.341	5.00	0.416	pCi/L		06/29/21 21:08	1

Client Sample ID: MW-1B-DUP
Date Collected: 05/26/21 13:00
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-15
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.05		0.458	0.478	5.00	0.474	pCi/L		06/30/21 16:38	1

Client Sample ID: W-9
Date Collected: 05/27/21 08:45
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-16
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.77		0.424	0.439	5.00	0.491	pCi/L		06/29/21 21:08	1

Client Sample ID: W-7-EB
Date Collected: 05/27/21 10:40
Date Received: 05/28/21 13:30
Lab Sample ID: 280-149186-17
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.0923	U	0.275	0.275	5.00	0.456	pCi/L		06/29/21 21:08	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-489368/1-A
Matrix: Water
Analysis Batch: 489705

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 14:29	1

Lab Sample ID: LCS 240-489368/2-A
Matrix: Water
Analysis Batch: 489705

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.10		mg/L		110	80 - 120

Lab Sample ID: MB 240-489582/1-A
Matrix: Water
Analysis Batch: 489985

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 11:07	1

Lab Sample ID: LCS 240-489582/2-A
Matrix: Water
Analysis Batch: 489985

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.09		mg/L		109	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-489368/1-A
Matrix: Water
Analysis Batch: 490161

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/07/21 14:00	06/10/21 19:25	1
Arsenic	ND		0.0050	0.00075	mg/L		06/07/21 14:00	06/10/21 19:25	1
Barium	ND		0.0050	0.0022	mg/L		06/07/21 14:00	06/10/21 19:25	1
Calcium	ND		1.0	0.58	mg/L		06/07/21 14:00	06/10/21 19:25	1
Cadmium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:25	1
Cobalt	ND		0.0010	0.00019	mg/L		06/07/21 14:00	06/10/21 19:25	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/10/21 19:25	1
Molybdenum	ND		0.010	0.0011	mg/L		06/07/21 14:00	06/10/21 19:25	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/10/21 19:25	1
Selenium	ND		0.0050	0.00089	mg/L		06/07/21 14:00	06/10/21 19:25	1
Thallium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/10/21 19:25	1
Lithium	ND		0.0080	0.0017	mg/L		06/07/21 14:00	06/10/21 19:25	1

Lab Sample ID: LCS 240-489368/3-A
Matrix: Water
Analysis Batch: 490161

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.103		mg/L		103	80 - 120
Arsenic	1.00	0.988		mg/L		99	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-489368/3-A
Matrix: Water
Analysis Batch: 490161

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.00	0.965		mg/L		97	80 - 120
Calcium	25.0	24.8		mg/L		99	80 - 120
Cadmium	0.500	0.496		mg/L		99	80 - 120
Cobalt	0.500	0.509		mg/L		102	80 - 120
Chromium	0.500	0.526		mg/L		105	80 - 120
Molybdenum	0.500	0.493		mg/L		99	80 - 120
Lead	0.500	0.529		mg/L		106	80 - 120
Selenium	1.00	0.952		mg/L		95	80 - 120
Thallium	1.00	1.04		mg/L		104	80 - 120
Lithium	0.500	0.515		mg/L		103	80 - 120

Lab Sample ID: 280-149186-3 MS
Matrix: Water
Analysis Batch: 490161

Client Sample ID: W-3
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00079	J	0.100	0.106		mg/L		105	75 - 125
Arsenic	0.0018	J	1.00	1.00		mg/L		100	75 - 125
Barium	0.048		1.00	1.02		mg/L		97	75 - 125
Calcium	460		25.0	470	4	mg/L		42	75 - 125
Cadmium	ND		0.500	0.486		mg/L		97	75 - 125
Cobalt	0.00070	J	0.500	0.505		mg/L		101	75 - 125
Chromium	ND		0.500	0.486		mg/L		97	75 - 125
Molybdenum	0.026		0.500	0.529		mg/L		101	75 - 125
Lead	0.00055	J	0.500	0.499		mg/L		100	75 - 125
Selenium	0.0089		1.00	0.953		mg/L		94	75 - 125
Thallium	0.00045	J	1.00	0.999		mg/L		100	75 - 125
Lithium	0.11		0.500	0.619		mg/L		101	75 - 125

Lab Sample ID: 280-149186-3 MSD
Matrix: Water
Analysis Batch: 490161

Client Sample ID: W-3
Prep Type: Total Recoverable
Prep Batch: 489368

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00079	J	0.100	0.105		mg/L		104	75 - 125	1	20
Arsenic	0.0018	J	1.00	1.01		mg/L		100	75 - 125	0	20
Barium	0.048		1.00	1.02		mg/L		97	75 - 125	1	20
Calcium	460		25.0	481	4	mg/L		88	75 - 125	2	20
Cadmium	ND		0.500	0.487		mg/L		97	75 - 125	0	20
Cobalt	0.00070	J	0.500	0.507		mg/L		101	75 - 125	0	20
Chromium	ND		0.500	0.486		mg/L		97	75 - 125	0	20
Molybdenum	0.026		0.500	0.534		mg/L		102	75 - 125	1	20
Lead	0.00055	J	0.500	0.508		mg/L		101	75 - 125	2	20
Selenium	0.0089		1.00	0.954		mg/L		94	75 - 125	0	20
Thallium	0.00045	J	1.00	1.00		mg/L		100	75 - 125	0	20
Lithium	0.11		0.500	0.625		mg/L		102	75 - 125	1	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-489582/1-A
Matrix: Water
Analysis Batch: 491290

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		06/08/21 14:00	06/17/21 23:27	1
Arsenic	ND		0.0050	0.00075	mg/L		06/08/21 14:00	06/17/21 23:27	1
Barium	ND		0.0050	0.0022	mg/L		06/08/21 14:00	06/17/21 23:27	1
Calcium	ND		1.0	0.58	mg/L		06/08/21 14:00	06/17/21 23:27	1
Cadmium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:27	1
Cobalt	ND		0.0010	0.00019	mg/L		06/08/21 14:00	06/17/21 23:27	1
Chromium	ND		0.0020	0.00098	mg/L		06/08/21 14:00	06/17/21 23:27	1
Molybdenum	ND		0.010	0.0011	mg/L		06/08/21 14:00	06/17/21 23:27	1
Lead	ND		0.0010	0.00045	mg/L		06/08/21 14:00	06/17/21 23:27	1
Selenium	ND		0.0050	0.00089	mg/L		06/08/21 14:00	06/17/21 23:27	1
Thallium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:27	1
Lithium	ND		0.0080	0.0017	mg/L		06/08/21 14:00	06/17/21 23:27	1

Lab Sample ID: LCS 240-489582/3-A
Matrix: Water
Analysis Batch: 491290

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.100		mg/L		100	80 - 120
Arsenic	1.00	1.01		mg/L		101	80 - 120
Barium	1.00	0.977		mg/L		98	80 - 120
Calcium	25.0	25.7		mg/L		103	80 - 120
Cadmium	0.500	0.473		mg/L		95	80 - 120
Cobalt	0.500	0.506		mg/L		101	80 - 120
Chromium	0.500	0.490		mg/L		98	80 - 120
Molybdenum	0.500	0.471		mg/L		94	80 - 120
Lead	0.500	0.497		mg/L		99	80 - 120
Selenium	1.00	0.928		mg/L		93	80 - 120
Thallium	1.00	0.936		mg/L		94	80 - 120
Lithium	0.500	0.485		mg/L		97	80 - 120

Lab Sample ID: 280-149186-5 MS
Matrix: Water
Analysis Batch: 491290

Client Sample ID: W-7
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		0.100	0.102		mg/L		102	75 - 125
Arsenic	0.031	J	1.00	1.07		mg/L		104	75 - 125
Barium	0.071	F1	1.00	0.600	F1	mg/L		53	75 - 125
Calcium	470		25.0	508	4	mg/L		152	75 - 125
Cadmium	0.039		0.500	0.466		mg/L		85	75 - 125
Cobalt	0.063		0.500	0.507		mg/L		89	75 - 125
Chromium	0.021		0.500	0.471		mg/L		90	75 - 125
Molybdenum	0.025	J	0.500	0.513		mg/L		98	75 - 125
Lead	0.037		0.500	0.448		mg/L		82	75 - 125
Selenium	0.76		1.00	1.73		mg/L		97	75 - 125
Thallium	0.038		1.00	0.940		mg/L		90	75 - 125
Lithium	1.9		0.500	2.52		mg/L		120	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-149186-5 MSD
Matrix: Water
Analysis Batch: 491290

Client Sample ID: W-7
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		0.100	0.102		mg/L		102	75 - 125	0	20
Arsenic	0.031	J	1.00	1.05		mg/L		102	75 - 125	2	20
Barium	0.071	F1	1.00	0.531	F1	mg/L		46	75 - 125	12	20
Calcium	470		25.0	507	4	mg/L		150	75 - 125	0	20
Cadmium	0.039		0.500	0.459		mg/L		84	75 - 125	1	20
Cobalt	0.063		0.500	0.505		mg/L		88	75 - 125	1	20
Chromium	0.021		0.500	0.463		mg/L		88	75 - 125	2	20
Molybdenum	0.025	J	0.500	0.501		mg/L		95	75 - 125	2	20
Lead	0.037		0.500	0.429		mg/L		78	75 - 125	4	20
Selenium	0.76		1.00	1.72		mg/L		96	75 - 125	1	20
Thallium	0.038		1.00	0.888		mg/L		85	75 - 125	6	20
Lithium	1.9		0.500	2.45		mg/L		106	75 - 125	3	20

Method: 9040B - pH

Lab Sample ID: LCS 280-538152/27
Matrix: Water
Analysis Batch: 538152

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH adj. to 25 deg C			7.00	7.1		SU		101	99 - 101		

Lab Sample ID: LCS 280-538152/50
Matrix: Water
Analysis Batch: 538152

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
pH adj. to 25 deg C			7.00	7.1		SU		101	99 - 101		

Lab Sample ID: 280-149186-17 DU
Matrix: Water
Analysis Batch: 538152

Client Sample ID: W-7-EB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH adj. to 25 deg C	7.8	HF		6.3	F3	SU				22	5
Temperature	21.1	HF		21.4		Degrees C				1	10

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-540595/6
Matrix: Water
Analysis Batch: 540595

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			06/21/21 10:16	1
Fluoride	ND		0.50	0.17	mg/L			06/21/21 10:16	1
Sulfate	ND		5.0	1.0	mg/L			06/21/21 10:16	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-540595/4
Matrix: Water
Analysis Batch: 540595

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	98.8		mg/L		99	90 - 110
Fluoride	5.00	5.02		mg/L		100	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-540595/5
Matrix: Water
Analysis Batch: 540595

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	100	99.7		mg/L		100	90 - 110	1	10
Fluoride	5.00	5.13		mg/L		103	90 - 110	2	10
Sulfate	100	102		mg/L		102	90 - 110	1	10

Lab Sample ID: MRL 280-540595/3
Matrix: Water
Analysis Batch: 540595

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.28		mg/L		86	50 - 150
Fluoride	0.500	0.432	J	mg/L		86	50 - 150
Sulfate	5.00	4.08	J	mg/L		82	50 - 150

Lab Sample ID: 280-149186-6 MS
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100		50.0	155		mg/L		106	80 - 120
Fluoride	0.31	J	5.00	4.56		mg/L		85	80 - 120

Lab Sample ID: 280-149186-6 MS
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	F1	250	198	F1	mg/L		79	80 - 120
Sulfate	3400		2500	5860		mg/L		98	80 - 120

Lab Sample ID: 280-149186-6 MSD
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100		50.0	155		mg/L		107	80 - 120	0	20
Fluoride	0.31	J	5.00	4.57		mg/L		85	80 - 120	0	20

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: 280-149186-6 MSD — **Client Sample ID: W-5B**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	F1	250	191	F1	mg/L		77	80 - 120	3	20
Sulfate	3400		2500	5690		mg/L		91	80 - 120	3	20

Lab Sample ID: 280-149186-14 MS — **Client Sample ID: MW-6**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.62		5.00	4.90		mg/L		86	80 - 120

Lab Sample ID: 280-149186-14 MS — **Client Sample ID: MW-6**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	240		500	730		mg/L		99	80 - 120
Fluoride	ND	F1	50.0	39.3	F1	mg/L		79	80 - 120

Lab Sample ID: 280-149186-14 MSD — **Client Sample ID: MW-6**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.62		5.00	4.91		mg/L		86	80 - 120	0	20

Lab Sample ID: 280-149186-14 MSD — **Client Sample ID: MW-6**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	240		500	746		mg/L		102	80 - 120	2	20
Fluoride	ND	F1	50.0	40.2		mg/L		80	80 - 120	2	20

Lab Sample ID: 280-149186-17 MS — **Client Sample ID: W-7-EB**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	ND		50.0	57.1		mg/L		114	80 - 120
Fluoride	ND		5.00	4.43		mg/L		89	80 - 120
Sulfate	ND		50.0	56.9		mg/L		114	80 - 120

Lab Sample ID: 280-149186-17 MSD — **Client Sample ID: W-7-EB**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 540595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	ND		50.0	56.4		mg/L		113	80 - 120	1	20
Fluoride	ND		5.00	4.37		mg/L		87	80 - 120	1	20
Sulfate	ND		50.0	56.1		mg/L		112	80 - 120	1	20

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: 280-149186-6 DU
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	100		102		mg/L		0.2	15
Fluoride	0.31	J	0.302	J	mg/L		3	15

Lab Sample ID: 280-149186-6 DU
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-5B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	ND	F1	ND		mg/L		NC	15
Sulfate	3400		3370		mg/L		1	15

Lab Sample ID: 280-149186-14 DU
Matrix: Water
Analysis Batch: 540595

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.62		0.614		mg/L		1	15

Lab Sample ID: 280-149186-14 DU
Matrix: Water
Analysis Batch: 540595

Client Sample ID: MW-6
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	240		231		mg/L		3	15
Fluoride	ND	F1	ND		mg/L		NC	15

Lab Sample ID: 280-149186-17 DU
Matrix: Water
Analysis Batch: 540595

Client Sample ID: W-7-EB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	ND		ND		mg/L		NC	15
Fluoride	ND		ND		mg/L		NC	15
Sulfate	ND		ND		mg/L		NC	15

Lab Sample ID: MB 280-540751/6
Matrix: Water
Analysis Batch: 540751

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			06/22/21 10:58	1
Sulfate	ND		5.0	1.0	mg/L			06/22/21 10:58	1

Lab Sample ID: LCS 280-540751/4
Matrix: Water
Analysis Batch: 540751

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	97.2		mg/L		97	90 - 110
Sulfate	100	98.3		mg/L		98	90 - 110

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCSD 280-540751/5
Matrix: Water
Analysis Batch: 540751

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			100	97.3		mg/L		97	90 - 110	0	10
Sulfate			100	98.4		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 280-540751/3
Matrix: Water
Analysis Batch: 540751

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	3.87		mg/L		77	50 - 150		
Sulfate			5.00	4.24	J	mg/L		85	50 - 150		

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

Lab Sample ID: MB 280-538102/1
Matrix: Water
Analysis Batch: 538102

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			06/01/21 09:58	1

Lab Sample ID: LCS 280-538102/2
Matrix: Water
Analysis Batch: 538102

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 (TDS)			505	490		mg/L		97	88 - 114		

Lab Sample ID: 280-149186-1 DU
Matrix: Water
Analysis Batch: 538102

Client Sample ID: W-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS)	23000			21000		mg/L				7	10

Lab Sample ID: MB 280-538103/1
Matrix: Water
Analysis Batch: 538103

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			06/01/21 10:02	1

Lab Sample ID: LCS 280-538103/2
Matrix: Water
Analysis Batch: 538103

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 (TDS)			505	488		mg/L		97	88 - 114		

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

Lab Sample ID: 280-149186-2 DU
Matrix: Water
Analysis Batch: 538103

Client Sample ID: W-2A
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids (TDS)	71000			73600		mg/L				3	10

Lab Sample ID: MB 280-538875/1
Matrix: Water
Analysis Batch: 538875

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			06/07/21 11:52	1

Lab Sample ID: LCS 280-538875/2
Matrix: Water
Analysis Batch: 538875

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 (TDS)			501	499		mg/L		100	88 - 114		

Lab Sample ID: MB 280-539347/1
Matrix: Water
Analysis Batch: 539347

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			06/10/21 11:10	1

Lab Sample ID: LCS 280-539347/2
Matrix: Water
Analysis Batch: 539347

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 (TDS)			504	504		mg/L		100	88 - 114		

Lab Sample ID: LCSD 280-539347/3
Matrix: Water
Analysis Batch: 539347

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 (TDS)			504	504		mg/L		100	88 - 114	0	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-538175/2
Matrix: Water
Analysis Batch: 538175

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/01/21 18:52	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-538175/1
Matrix: Water
Analysis Batch: 538175

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	100		mg/L		100	79 - 114

Lab Sample ID: MB 280-538214/1
Matrix: Water
Analysis Batch: 538214

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/02/21 08:33	1

Lab Sample ID: LCS 280-538214/2
Matrix: Water
Analysis Batch: 538214

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	99.2		mg/L		99	79 - 114

Lab Sample ID: LCSD 280-538214/3
Matrix: Water
Analysis Batch: 538214

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 Suspended Solids	100	84.4		mg/L		84	79 - 114	16	20

Lab Sample ID: MB 280-538215/1
Matrix: Water
Analysis Batch: 538215

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/02/21 08:35	1

Lab Sample ID: LCS 280-538215/2
Matrix: Water
Analysis Batch: 538215

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	82.8		mg/L		83	79 - 114

Lab Sample ID: MB 280-538535/1
Matrix: Water
Analysis Batch: 538535

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/04/21 09:54	1

Lab Sample ID: LCS 280-538535/2
Matrix: Water
Analysis Batch: 538535

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	86.0		mg/L		86	79 - 114

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-512827/19-A
Matrix: Water
Analysis Batch: 516499

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512827

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1052	U	0.131	0.131	1.00	0.216	pCi/L	06/04/21 16:30	06/29/21 15:37	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*87.5*		*40 - 110*	*06/04/21 16:30*	*06/29/21 15:37*	*1*

Lab Sample ID: LCS 160-512827/1-A
Matrix: Water
Analysis Batch: 516499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512827

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			15.1	13.55		1.51	1.00	0.234	pCi/L	90	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*84.1*		*40 - 110*

Lab Sample ID: LCSD 160-512827/2-A
Matrix: Water
Analysis Batch: 516499

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512827

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			15.1	13.50		1.49	1.00	0.210	pCi/L	89	75 - 125	0.02	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*84.4*		*40 - 110*

Lab Sample ID: MB 160-513098/23-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513098

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.2126		0.145	0.146	1.00	0.205	pCi/L	06/07/21 09:17	06/30/21 11:19	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*98.1*		*40 - 110*	*06/07/21 09:17*	*06/30/21 11:19*	*1*

Lab Sample ID: LCS 160-513098/1-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513098

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.42		1.19	1.00	0.190	pCi/L	92	75 - 125		

Method: 9315 - Radium-226 (GFPC) (Continued)

Lab Sample ID: LCS 160-513098/1-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513098

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.9		40 - 110

Lab Sample ID: LCSD 160-513098/2-A
Matrix: Water
Analysis Batch: 516648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 513098

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.10		1.19	1.00	0.230	pCi/L	89	75 - 125	0.14	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	87.5		40 - 110

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-512828/19-A
Matrix: Water
Analysis Batch: 516165

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512828

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.1416	U	0.303	0.303	1.00	0.520	pCi/L	06/04/21 16:58	06/25/21 10:36	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	87.5		40 - 110	06/04/21 16:58	06/25/21 10:36	1
Y Carrier	92.0		40 - 110	06/04/21 16:58	06/25/21 10:36	1

Lab Sample ID: LCS 160-512828/1-A
Matrix: Water
Analysis Batch: 516165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512828

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			12.8	14.18		1.65	1.00	0.504	pCi/L	111	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	84.1		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: LCSD 160-512828/2-A
Matrix: Water
Analysis Batch: 516165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512828

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			12.8	13.69		1.60	1.00	0.528	pCi/L	107	75 - 125	0.15	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCSD 160-512828/2-A
Matrix: Water
Analysis Batch: 516165

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512828

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	84.4		40 - 110
Y Carrier	89.0		40 - 110

Lab Sample ID: MB 160-513102/23-A
Matrix: Water
Analysis Batch: 516465

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513102

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3769		0.239	0.241	1.00	0.367	pCi/L	06/07/21 10:13	06/28/21 13:55	1

Carrier	MB %Yield	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	98.1		40 - 110	06/07/21 10:13	06/28/21 13:55	1
Y Carrier	96.1		40 - 110	06/07/21 10:13	06/28/21 13:55	1

Lab Sample ID: LCS 160-513102/1-A
Matrix: Water
Analysis Batch: 516467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513102

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.58	9.321		1.07	1.00	0.326	pCi/L	97	75 - 125		

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	96.9		40 - 110
Y Carrier	92.3		40 - 110

Lab Sample ID: LCSD 160-513102/2-A
Matrix: Water
Analysis Batch: 516467

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 513102

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.58	10.14		1.17	1.00	0.379	pCi/L	106	75 - 125	0.37	1

Carrier	LCSD %Yield	LCSD Qualifier	Limits
Ba Carrier	87.5		40 - 110
Y Carrier	93.8		40 - 110

QC Association Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Prep Batch: 489368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-2	W-2A	Total Recoverable	Water	3005A	
280-149186-3	W-3	Total Recoverable	Water	3005A	
280-149186-4	W-6	Total Recoverable	Water	3005A	
280-149186-6	W-5B	Total Recoverable	Water	3005A	
280-149186-7	W-12	Total Recoverable	Water	3005A	
280-149186-12	MW-4B	Total Recoverable	Water	3005A	
280-149186-14	MW-6	Total Recoverable	Water	3005A	
280-149186-16	W-9	Total Recoverable	Water	3005A	
280-149186-17	W-7-EB	Total Recoverable	Water	3005A	
MB 240-489368/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-489368/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-489368/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-149186-3 MS	W-3	Total Recoverable	Water	3005A	
280-149186-3 MSD	W-3	Total Recoverable	Water	3005A	

Prep Batch: 489582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total Recoverable	Water	3005A	
280-149186-5	W-7	Total Recoverable	Water	3005A	
280-149186-8	MW-1B	Total Recoverable	Water	3005A	
280-149186-9	W-2B	Total Recoverable	Water	3005A	
280-149186-10	MW-2B	Total Recoverable	Water	3005A	
280-149186-11	MW-3	Total Recoverable	Water	3005A	
280-149186-13	MW-5	Total Recoverable	Water	3005A	
280-149186-15	MW-1B-DUP	Total Recoverable	Water	3005A	
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-489582/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-489582/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-149186-5 MS	W-7	Total Recoverable	Water	3005A	
280-149186-5 MSD	W-7	Total Recoverable	Water	3005A	

Analysis Batch: 489705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-2	W-2A	Total Recoverable	Water	6010C	489368
280-149186-3	W-3	Total Recoverable	Water	6010C	489368
280-149186-4	W-6	Total Recoverable	Water	6010C	489368
280-149186-6	W-5B	Total Recoverable	Water	6010C	489368
280-149186-7	W-12	Total Recoverable	Water	6010C	489368
280-149186-12	MW-4B	Total Recoverable	Water	6010C	489368
280-149186-14	MW-6	Total Recoverable	Water	6010C	489368
280-149186-16	W-9	Total Recoverable	Water	6010C	489368
280-149186-17	W-7-EB	Total Recoverable	Water	6010C	489368
MB 240-489368/1-A	Method Blank	Total Recoverable	Water	6010C	489368
LCS 240-489368/2-A	Lab Control Sample	Total Recoverable	Water	6010C	489368

Analysis Batch: 489985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total Recoverable	Water	6010C	489582
280-149186-5	W-7	Total Recoverable	Water	6010C	489582
280-149186-8	MW-1B	Total Recoverable	Water	6010C	489582
280-149186-9	W-2B	Total Recoverable	Water	6010C	489582

Metals (Continued)

Analysis Batch: 489985 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-10	MW-2B	Total Recoverable	Water	6010C	489582
280-149186-11	MW-3	Total Recoverable	Water	6010C	489582
280-149186-13	MW-5	Total Recoverable	Water	6010C	489582
280-149186-15	MW-1B-DUP	Total Recoverable	Water	6010C	489582
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	6010C	489582
LCS 240-489582/2-A	Lab Control Sample	Total Recoverable	Water	6010C	489582

Analysis Batch: 490161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-2	W-2A	Total Recoverable	Water	6020A	489368
280-149186-3	W-3	Total Recoverable	Water	6020A	489368
280-149186-4	W-6	Total Recoverable	Water	6020A	489368
280-149186-6	W-5B	Total Recoverable	Water	6020A	489368
280-149186-7	W-12	Total Recoverable	Water	6020A	489368
280-149186-12	MW-4B	Total Recoverable	Water	6020A	489368
280-149186-14	MW-6	Total Recoverable	Water	6020A	489368
280-149186-16	W-9	Total Recoverable	Water	6020A	489368
280-149186-17	W-7-EB	Total Recoverable	Water	6020A	489368
MB 240-489368/1-A	Method Blank	Total Recoverable	Water	6020A	489368
LCS 240-489368/3-A	Lab Control Sample	Total Recoverable	Water	6020A	489368
280-149186-3 MS	W-3	Total Recoverable	Water	6020A	489368
280-149186-3 MSD	W-3	Total Recoverable	Water	6020A	489368

Analysis Batch: 491290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total Recoverable	Water	6020A	489582
280-149186-5	W-7	Total Recoverable	Water	6020A	489582
280-149186-8	MW-1B	Total Recoverable	Water	6020A	489582
280-149186-9	W-2B	Total Recoverable	Water	6020A	489582
280-149186-10	MW-2B	Total Recoverable	Water	6020A	489582
280-149186-11	MW-3	Total Recoverable	Water	6020A	489582
280-149186-13	MW-5	Total Recoverable	Water	6020A	489582
280-149186-15	MW-1B-DUP	Total Recoverable	Water	6020A	489582
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	6020A	489582
LCS 240-489582/3-A	Lab Control Sample	Total Recoverable	Water	6020A	489582
280-149186-5 MS	W-7	Total Recoverable	Water	6020A	489582
280-149186-5 MSD	W-7	Total Recoverable	Water	6020A	489582

General Chemistry

Analysis Batch: 538102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	SM 2540C	
MB 280-538102/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-538102/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-149186-1 DU	W-11	Total/NA	Water	SM 2540C	

Analysis Batch: 538103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-2	W-2A	Total/NA	Water	SM 2540C	
280-149186-3	W-3	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 538103 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-4	W-6	Total/NA	Water	SM 2540C	
280-149186-6	W-5B	Total/NA	Water	SM 2540C	
280-149186-7	W-12	Total/NA	Water	SM 2540C	
280-149186-8	MW-1B	Total/NA	Water	SM 2540C	
280-149186-9	W-2B	Total/NA	Water	SM 2540C	
280-149186-10	MW-2B	Total/NA	Water	SM 2540C	
280-149186-11	MW-3	Total/NA	Water	SM 2540C	
280-149186-12	MW-4B	Total/NA	Water	SM 2540C	
280-149186-13	MW-5	Total/NA	Water	SM 2540C	
280-149186-14	MW-6	Total/NA	Water	SM 2540C	
280-149186-16	W-9	Total/NA	Water	SM 2540C	
280-149186-17	W-7-EB	Total/NA	Water	SM 2540C	
MB 280-538103/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-538103/2	Lab Control Sample	Total/NA	Water	SM 2540C	
280-149186-2 DU	W-2A	Total/NA	Water	SM 2540C	

Analysis Batch: 538152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	9040B	
280-149186-2	W-2A	Total/NA	Water	9040B	
280-149186-3	W-3	Total/NA	Water	9040B	
280-149186-4	W-6	Total/NA	Water	9040B	
280-149186-5	W-7	Total/NA	Water	9040B	
280-149186-6	W-5B	Total/NA	Water	9040B	
280-149186-7	W-12	Total/NA	Water	9040B	
280-149186-8	MW-1B	Total/NA	Water	9040B	
280-149186-9	W-2B	Total/NA	Water	9040B	
280-149186-10	MW-2B	Total/NA	Water	9040B	
280-149186-11	MW-3	Total/NA	Water	9040B	
280-149186-12	MW-4B	Total/NA	Water	9040B	
280-149186-13	MW-5	Total/NA	Water	9040B	
280-149186-14	MW-6	Total/NA	Water	9040B	
280-149186-15	MW-1B-DUP	Total/NA	Water	9040B	
280-149186-16	W-9	Total/NA	Water	9040B	
280-149186-17	W-7-EB	Total/NA	Water	9040B	
LCS 280-538152/27	Lab Control Sample	Total/NA	Water	9040B	
LCS 280-538152/50	Lab Control Sample	Total/NA	Water	9040B	
280-149186-17 DU	W-7-EB	Total/NA	Water	9040B	

Analysis Batch: 538175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-4	W-6	Total/NA	Water	SM 2540D	
280-149186-12	MW-4B	Total/NA	Water	SM 2540D	
MB 280-538175/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-538175/1	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 538214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-16	W-9	Total/NA	Water	SM 2540D	
280-149186-17	W-7-EB	Total/NA	Water	SM 2540D	
MB 280-538214/1	Method Blank	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 538214 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-538214/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-538214/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 538215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	SM 2540D	
280-149186-2	W-2A	Total/NA	Water	SM 2540D	
280-149186-8	MW-1B	Total/NA	Water	SM 2540D	
280-149186-10	MW-2B	Total/NA	Water	SM 2540D	
280-149186-14	MW-6	Total/NA	Water	SM 2540D	
MB 280-538215/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-538215/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 538535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-3	W-3	Total/NA	Water	SM 2540D	
280-149186-5	W-7	Total/NA	Water	SM 2540D	
280-149186-6	W-5B	Total/NA	Water	SM 2540D	
280-149186-7	W-12	Total/NA	Water	SM 2540D	
280-149186-9	W-2B	Total/NA	Water	SM 2540D	
280-149186-11	MW-3	Total/NA	Water	SM 2540D	
280-149186-13	MW-5	Total/NA	Water	SM 2540D	
280-149186-15	MW-1B-DUP	Total/NA	Water	SM 2540D	
MB 280-538535/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-538535/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 538875

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-15	MW-1B-DUP	Total/NA	Water	SM 2540C	
MB 280-538875/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-538875/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 539347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-5	W-7	Total/NA	Water	SM 2540C	
MB 280-539347/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-539347/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-539347/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 540595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	9056A	
280-149186-1	W-11	Total/NA	Water	9056A	
280-149186-1	W-11	Total/NA	Water	9056A	
280-149186-2	W-2A	Total/NA	Water	9056A	
280-149186-2	W-2A	Total/NA	Water	9056A	
280-149186-2	W-2A	Total/NA	Water	9056A	
280-149186-3	W-3	Total/NA	Water	9056A	
280-149186-3	W-3	Total/NA	Water	9056A	
280-149186-4	W-6	Total/NA	Water	9056A	
280-149186-4	W-6	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 540595 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-5	W-7	Total/NA	Water	9056A	
280-149186-5	W-7	Total/NA	Water	9056A	
280-149186-6	W-5B	Total/NA	Water	9056A	
280-149186-6	W-5B	Total/NA	Water	9056A	
280-149186-7	W-12	Total/NA	Water	9056A	
280-149186-7	W-12	Total/NA	Water	9056A	
280-149186-8	MW-1B	Total/NA	Water	9056A	
280-149186-8	MW-1B	Total/NA	Water	9056A	
280-149186-8	MW-1B	Total/NA	Water	9056A	
280-149186-9	W-2B	Total/NA	Water	9056A	
280-149186-9	W-2B	Total/NA	Water	9056A	
280-149186-9	W-2B	Total/NA	Water	9056A	
280-149186-10	MW-2B	Total/NA	Water	9056A	
280-149186-10	MW-2B	Total/NA	Water	9056A	
280-149186-10	MW-2B	Total/NA	Water	9056A	
280-149186-11	MW-3	Total/NA	Water	9056A	
280-149186-11	MW-3	Total/NA	Water	9056A	
280-149186-11	MW-3	Total/NA	Water	9056A	
280-149186-12	MW-4B	Total/NA	Water	9056A	
280-149186-12	MW-4B	Total/NA	Water	9056A	
280-149186-13	MW-5	Total/NA	Water	9056A	
280-149186-13	MW-5	Total/NA	Water	9056A	
280-149186-13	MW-5	Total/NA	Water	9056A	
280-149186-14	MW-6	Total/NA	Water	9056A	
280-149186-14	MW-6	Total/NA	Water	9056A	
280-149186-15	MW-1B-DUP	Total/NA	Water	9056A	
280-149186-15	MW-1B-DUP	Total/NA	Water	9056A	
280-149186-15	MW-1B-DUP	Total/NA	Water	9056A	
280-149186-16	W-9	Total/NA	Water	9056A	
280-149186-16	W-9	Total/NA	Water	9056A	
280-149186-17	W-7-EB	Total/NA	Water	9056A	
MB 280-540595/6	Method Blank	Total/NA	Water	9056A	
LCS 280-540595/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-540595/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-540595/3	Lab Control Sample	Total/NA	Water	9056A	
280-149186-6 MS	W-5B	Total/NA	Water	9056A	
280-149186-6 MS	W-5B	Total/NA	Water	9056A	
280-149186-6 MSD	W-5B	Total/NA	Water	9056A	
280-149186-6 MSD	W-5B	Total/NA	Water	9056A	
280-149186-14 MS	MW-6	Total/NA	Water	9056A	
280-149186-14 MS	MW-6	Total/NA	Water	9056A	
280-149186-14 MSD	MW-6	Total/NA	Water	9056A	
280-149186-14 MSD	MW-6	Total/NA	Water	9056A	
280-149186-17 MS	W-7-EB	Total/NA	Water	9056A	
280-149186-17 MSD	W-7-EB	Total/NA	Water	9056A	
280-149186-6 DU	W-5B	Total/NA	Water	9056A	
280-149186-6 DU	W-5B	Total/NA	Water	9056A	
280-149186-14 DU	MW-6	Total/NA	Water	9056A	
280-149186-14 DU	MW-6	Total/NA	Water	9056A	
280-149186-17 DU	W-7-EB	Total/NA	Water	9056A	

QC Association Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

General Chemistry

Analysis Batch: 540751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-5	W-7	Total/NA	Water	9056A	
280-149186-14	MW-6	Total/NA	Water	9056A	
MB 280-540751/6	Method Blank	Total/NA	Water	9056A	
LCS 280-540751/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-540751/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-540751/3	Lab Control Sample	Total/NA	Water	9056A	

Rad

Prep Batch: 512827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	PrecSep-21	
280-149186-2	W-2A	Total/NA	Water	PrecSep-21	
280-149186-3	W-3	Total/NA	Water	PrecSep-21	
280-149186-4	W-6	Total/NA	Water	PrecSep-21	
280-149186-5	W-7	Total/NA	Water	PrecSep-21	
280-149186-6	W-5B	Total/NA	Water	PrecSep-21	
280-149186-8	MW-1B	Total/NA	Water	PrecSep-21	
280-149186-9	W-2B	Total/NA	Water	PrecSep-21	
280-149186-11	MW-3	Total/NA	Water	PrecSep-21	
280-149186-12	MW-4B	Total/NA	Water	PrecSep-21	
280-149186-14	MW-6	Total/NA	Water	PrecSep-21	
280-149186-16	W-9	Total/NA	Water	PrecSep-21	
280-149186-17	W-7-EB	Total/NA	Water	PrecSep-21	
MB 160-512827/19-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-512827/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-512827/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 512828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-1	W-11	Total/NA	Water	PrecSep_0	
280-149186-2	W-2A	Total/NA	Water	PrecSep_0	
280-149186-3	W-3	Total/NA	Water	PrecSep_0	
280-149186-4	W-6	Total/NA	Water	PrecSep_0	
280-149186-5	W-7	Total/NA	Water	PrecSep_0	
280-149186-6	W-5B	Total/NA	Water	PrecSep_0	
280-149186-8	MW-1B	Total/NA	Water	PrecSep_0	
280-149186-9	W-2B	Total/NA	Water	PrecSep_0	
280-149186-11	MW-3	Total/NA	Water	PrecSep_0	
280-149186-12	MW-4B	Total/NA	Water	PrecSep_0	
280-149186-14	MW-6	Total/NA	Water	PrecSep_0	
280-149186-16	W-9	Total/NA	Water	PrecSep_0	
280-149186-17	W-7-EB	Total/NA	Water	PrecSep_0	
MB 160-512828/19-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-512828/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-512828/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 513098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-7	W-12	Total/NA	Water	PrecSep-21	
280-149186-10	MW-2B	Total/NA	Water	PrecSep-21	

Rad (Continued)

Prep Batch: 513098 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-13	MW-5	Total/NA	Water	PrecSep-21	
280-149186-15	MW-1B-DUP	Total/NA	Water	PrecSep-21	
MB 160-513098/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-513098/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-513098/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 513102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149186-7	W-12	Total/NA	Water	PrecSep_0	
280-149186-10	MW-2B	Total/NA	Water	PrecSep_0	
280-149186-13	MW-5	Total/NA	Water	PrecSep_0	
280-149186-15	MW-1B-DUP	Total/NA	Water	PrecSep_0	
MB 160-513102/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-513102/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-513102/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Client Sample ID: W-11
Lab Sample ID: 280-149186-1

Date Collected: 05/27/21 13:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:10	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			491290	06/17/21 23:47	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:09	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 17:33	JMB	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	540595	06/21/21 17:47	JMB	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	540595	06/21/21 18:01	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538102	06/01/21 09:58	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538215	06/02/21 08:35	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.86 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516593	06/29/21 07:11	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.86 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:34	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-2A
Lab Sample ID: 280-149186-2

Date Collected: 05/26/21 16:20
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:23	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			490161	06/10/21 19:47	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:12	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 18:15	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/21/21 18:29	JMB	TAL DEN
Total/NA	Analysis	9056A		1000	10 mL	10 mL	540595	06/21/21 18:43	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538215	06/02/21 08:35	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			751.85 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 10:57	ANW	TAL SL
Total/NA	Prep	PrecSep_0			751.85 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:34	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-3
Lab Sample ID: 280-149186-3
Date Collected: 05/27/21 13:20
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:10	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			490161	06/10/21 19:29	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:16	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 20:20	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	540595	06/21/21 20:49	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			752.32 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 10:57	ANW	TAL SL
Total/NA	Prep	PrecSep_0			752.32 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:35	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-6
Lab Sample ID: 280-149186-4
Date Collected: 05/25/21 15:15
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:28	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			490161	06/10/21 19:49	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:20	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 21:03	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	540595	06/21/21 21:31	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538175	06/01/21 18:52	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			751.84 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 10:58	ANW	TAL SL
Total/NA	Prep	PrecSep_0			751.84 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:35	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-7
Lab Sample ID: 280-149186-5
Date Collected: 05/27/21 10:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 11:44	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			491290	06/17/21 23:32	DTN	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-7
Lab Sample ID: 280-149186-5
Date Collected: 05/27/21 10:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9040B		1			538152	06/01/21 14:23	QJB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	540751	06/23/21 04:07	JMB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 00:05	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 00:19	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	539347	06/10/21 11:10	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			751.84 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 10:58	ANW	TAL SL
Total/NA	Prep	PrecSep_0			751.84 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:35	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-5B
Lab Sample ID: 280-149186-6
Date Collected: 05/26/21 10:50
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:32	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			490161	06/10/21 19:52	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:27	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 21:45	JMB	TAL DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	540595	06/21/21 23:09	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.68 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 10:58	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.68 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:35	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-12
Lab Sample ID: 280-149186-7
Date Collected: 05/28/21 08:50
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:45	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			490161	06/10/21 19:54	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:35	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 08:56	JMB	TAL DEN

Client Sample ID: W-12
Lab Sample ID: 280-149186-7

Date Collected: 05/28/21 08:50
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9056A		100	10 mL	10 mL	540595	06/22/21 09:10	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			751.49 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516648	06/30/21 07:29	SCB	TAL SL
Total/NA	Prep	PrecSep_0			751.49 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: MW-1B
Lab Sample ID: 280-149186-8

Date Collected: 05/26/21 12:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:14	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			491290	06/17/21 23:54	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:38	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 00:47	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 01:01	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	540595	06/22/21 01:15	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538215	06/02/21 08:35	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			749.94 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 13:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.94 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:35	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-2B
Lab Sample ID: 280-149186-9

Date Collected: 05/26/21 12:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:19	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			491290	06/17/21 23:57	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:42	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 01:57	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 02:11	JMB	TAL DEN
Total/NA	Analysis	9056A		1000	10 mL	10 mL	540595	06/22/21 02:25	JMB	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2B
Lab Sample ID: 280-149186-9
Date Collected: 05/26/21 12:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.36 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 13:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			750.36 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: MW-2B
Lab Sample ID: 280-149186-10
Date Collected: 05/27/21 11:35
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:24	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			491290	06/18/21 00:00	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:46	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 02:39	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 02:53	JMB	TAL DEN
Total/NA	Analysis	9056A		1000	10 mL	10 mL	540595	06/22/21 03:07	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538215	06/02/21 08:35	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			751.58 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516648	06/30/21 07:30	SCB	TAL SL
Total/NA	Prep	PrecSep_0			751.58 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: MW-3
Lab Sample ID: 280-149186-11
Date Collected: 05/26/21 15:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:28	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			491290	06/18/21 00:02	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:50	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 05:40	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 05:54	JMB	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	540595	06/22/21 06:08	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-3
Lab Sample ID: 280-149186-11
Date Collected: 05/26/21 15:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			749.96 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 13:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			749.96 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: MW-4B
Lab Sample ID: 280-149186-12
Date Collected: 05/25/21 14:50
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:50	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			490161	06/10/21 19:57	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:53	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 06:22	JMB	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	540595	06/22/21 06:50	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538175	06/01/21 18:52	SVC	TAL DEN
Total/NA	Prep	PrecSep-21			751.40 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 13:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			751.40 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: MW-5
Lab Sample ID: 280-149186-13
Date Collected: 05/28/21 08:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 11:57	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		10			491290	06/17/21 23:44	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 14:57	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 07:32	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 07:46	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	540595	06/22/21 08:00	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-5
Lab Sample ID: 280-149186-13
Date Collected: 05/28/21 08:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.90 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516647	06/30/21 07:31	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.90 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: MW-6
Lab Sample ID: 280-149186-14
Date Collected: 05/26/21 09:30
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:54	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			490161	06/10/21 20:00	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 15:01	QJB	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	540751	06/23/21 04:24	JMB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 03:20	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 04:44	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538215	06/02/21 08:35	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			1001.19 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 13:16	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1001.19 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: MW-1B-DUP
Lab Sample ID: 280-149186-15
Date Collected: 05/26/21 13:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:33	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		20			491290	06/18/21 00:05	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 15:05	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 08:14	JMB	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	540595	06/22/21 08:28	JMB	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	540595	06/22/21 08:42	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538875	06/07/21 11:52	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538535	06/04/21 09:54	LRB	TAL DEN

Client Sample ID: MW-1B-DUP
Lab Sample ID: 280-149186-15
Date Collected: 05/26/21 13:00
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			749.44 mL	1.0 g	513098	06/07/21 09:17	MJ	TAL SL
Total/NA	Analysis	9315		1			516647	06/30/21 07:32	SCB	TAL SL
Total/NA	Prep	PrecSep_0			749.44 mL	1.0 g	513102	06/07/21 10:13	MJ	TAL SL
Total/NA	Analysis	9320		1			516466	06/28/21 13:45	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516799	06/30/21 16:38	GRW	TAL SL

Client Sample ID: W-9
Lab Sample ID: 280-149186-16
Date Collected: 05/27/21 08:45
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 15:59	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			490161	06/10/21 20:02	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 15:08	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/22/21 09:24	JMB	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	540595	06/22/21 09:38	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538214	06/02/21 08:33	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			751.12 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 15:37	ANW	TAL SL
Total/NA	Prep	PrecSep_0			751.12 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Client Sample ID: W-7-EB
Lab Sample ID: 280-149186-17
Date Collected: 05/27/21 10:40
Matrix: Water
Date Received: 05/28/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489705	06/08/21 16:03	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489368	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			490161	06/10/21 20:05	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538152	06/01/21 15:23	QJB	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	540595	06/21/21 18:57	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	538103	06/01/21 10:02	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	538214	06/02/21 08:33	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			1000.74 mL	1.0 g	512827	06/04/21 16:30	MJ	TAL SL
Total/NA	Analysis	9315		1			516499	06/29/21 15:37	ANW	TAL SL
Total/NA	Prep	PrecSep_0			1000.74 mL	1.0 g	512828	06/04/21 16:58	MJ	TAL SL
Total/NA	Analysis	9320		1			516165	06/25/21 10:36	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			516646	06/29/21 21:08	GRW	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	06-30-21

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21 *
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-21
California	State	2886	06-30-21
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-21
HI - RadChem Recognition	State	n/a	06-30-21
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-21
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	07-19-21
MI - RadChem Recognition	State	9005	06-30-21
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	06-30-21
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	07-14-21
South Carolina	State	85002001	06-30-21
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

~~Eurofins~~ TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280 eurofins Environment Testing America

Client Information	Sampler: Travis Snyder	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 720 838 6065	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page:
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days): ASAP			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

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	Z - other (specify)

Other:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appli+IV, ~~7470A Hg~~	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers
			Preservation Code:				N	D	N	N	D	
W-11	5/27/21	1345	G	Water			X	X	X	X	X	
~~MW-B~~	~~5/26/21~~	~~1135~~	~~G~~	Water			X	X	X	X	X	
W-2A	5/26/21	1620	G	Water			X	X	X	X	X	
W-3	5/27/21	1320	G	Water			X	X	X	X	X	
W-4				Water								
W-5				Water								
W-6	5/25/21	1515	G	Water			X	X	X	X	X	
W-7	5/27/21	1000	G	Water			X	X	X	X	X	
~~W-8A~~ W-5B	5/26/21	1050	G	Water			X	X	X	X	X	
~~MW-1~~ W-12	5/28/21	0850	G	Water			X	X	X	X	X	
MW-1B	5/26/21	1245	G	Water			X	X	X	X	X	

280-149186 Chain of Custody

Special Instructions/Note:

No beryllium or mercury analysis

All samples <10 NTU, No Dissolved metals analysis requested

~~Matrix mismatch~~ Confirm w/ PM to discard bottles

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time: 5/28/21 1330	Company HDR	Received by:	Date/Time: 05/28/2021 1330	Company ETADEN	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
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:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: Travis Snyder	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 720 838 6065	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page:
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days): ASAP			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

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	Z - other (specify)

Other:

No beryllium or mercury analysis

Special Instructions/Note:

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appli+IV, ~~24765.0~~	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers
			Preservation Code:				N	D	N	N	D	
~~MW-2~~ W-2B	5/26/21	1245	G	Water			X	X	X	X	X	
MW-2B	5/27/21	1135	G	Water			X	X	X	X	X	
MW-3	5/26/21	1545	G	Water			X	X	X	X	X	
MW-4				Water								
MW-4B	5/25/21	1450	G	Water			X	X	X	X	X	
MW-5	5/28/21	0800	G	Water			X	X	X	X	X	
MW-6	5/26/21	0930	G	Water			X	X	X	X	X	
MW-1B -DUP	5/26/21	1300	G	Water			X	X	X	X	X	
~~MW-9~~ W-9	5/27/21	0845	G	Water			X	X	X	X	X	
W-7 -EB	5/27/21	1040	G	Water			X	X	X	X	X	

All samples <10 NTU. No Dissolved metals analysis requested.

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time: 5/28/21 1330	Company: HDR	Received by:	Date/Time: 05/28/2021 1330	Company		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		
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:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570906.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/17/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-11 (280-149186-1)	5/27/21	13:45 Mountain		Water			X	X	X	2	
W-2A (280-149186-2)	5/26/21	16:20 Mountain		Water			X	X	X	2	
W-3 (280-149186-3)	5/27/21	13:20 Mountain		Water			X	X	X	2	
W-6 (280-149186-4)	5/25/21	15:15 Mountain		Water			X	X	X	2	
W-7 (280-149186-5)	5/27/21	10:00 Mountain		Water			X	X	X	2	
W-5B (280-149186-6)	5/26/21	10:50 Mountain		Water			X	X	X	2	
W-12 (280-149186-7)	5/28/21	08:50 Mountain		Water			X	X	X	2	
MW-1B (280-149186-8)	5/26/21	12:45 Mountain		Water			X	X	X	2	
W-2B (280-149186-9)	5/26/21	12:45 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/2/21 1325		FE		
Relinquished by: FE	Date/Time:	Company	Received by: [signature]	Date/Time: 6/3/21 0915	Company ETTAS12
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:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570906.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/17/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	Z - other (specify)

Other:

Analysis Requested

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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-2B (280-149186-10)	5/27/21	11:35 Mountain		Water			X	X	X	2	
MW-3 (280-149186-11)	5/26/21	15:45 Mountain		Water			X	X	X	2	
MW-4B (280-149186-12)	5/25/21	14:50 Mountain		Water			X	X	X	2	
MW-5 (280-149186-13)	5/28/21	08:00 Mountain		Water			X	X	X	2	
MW-6 (280-149186-14)	5/26/21	09:30 Mountain		Water			X	X	X	2	
MW-1B-DUP (280-149186-15)	5/26/21	13:00 Mountain		Water			X	X	X	2	
W-9 (280-149186-16)	5/27/21	08:45 Mountain		Water			X	X	X	2	
W-7-EB (280-149186-17)	5/27/21	10:40 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6/2/21 1325		FE		
2	FE			[signature]	6/3/21 0915	
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570906.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/17/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	Z - other (specify)

Other:

Analysis Requested

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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-11 (280-149186-1)	5/27/21	13:45 Mountain		Water			X	X	X	2	
W-2A (280-149186-2)	5/26/21	16:20 Mountain		Water			X	X	X	2	
W-3 (280-149186-3)	5/27/21	13:20 Mountain		Water			X	X	X	2	
W-6 (280-149186-4)	5/25/21	15:15 Mountain		Water			X	X	X	2	
W-7 (280-149186-5)	5/27/21	10:00 Mountain		Water			X	X	X	2	
W-5B (280-149186-6)	5/26/21	10:50 Mountain		Water			X	X	X	2	
W-12 (280-149186-7)	5/28/21	08:50 Mountain		Water			X	X	X	2	
MW-1B (280-149186-8)	5/26/21	12:45 Mountain		Water			X	X	X	2	
W-2B (280-149186-9)	5/26/21	12:45 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	6/2/21 1325		FE		
2	FE			[signature]	6/3/21 0915	EFTSLC
3						

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570906.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 6/17/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
MW-2B (280-149186-10)	5/27/21	11:35 Mountain		Water			X	X	X	2	
MW-3 (280-149186-11)	5/26/21	15:45 Mountain		Water			X	X	X	2	
MW-4B (280-149186-12)	5/25/21	14:50 Mountain		Water			X	X	X	2	
MW-5 (280-149186-13)	5/28/21	08:00 Mountain		Water			X	X	X	2	
MW-6 (280-149186-14)	5/26/21	09:30 Mountain		Water			X	X	X	2	
MW-1B-DUP (280-149186-15)	5/26/21	13:00 Mountain		Water			X	X	X	2	
W-9 (280-149186-16)	5/27/21	08:45 Mountain		Water			X	X	X	2	
W-7-EB (280-149186-17)	5/27/21	10:40 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/2/21 1325		FE		
Relinquished by: FE	Date/Time:	Company	Received by: [signature]	Date/Time: 6/3/21 0915	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

14.0/14.1

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570899.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 6/17/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

575

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)	6020A/3005A (MOD) 13 Total Metals (w/collision cell)	6010C/3005A (MOD) Boron	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
W-11 (280-149186-1)	5/27/21	13:45 Mountain		Water			X	X	1	Use Collision Cell
W-2A (280-149186-2)	5/26/21	16:20 Mountain		Water			X	X	1	Use Collision Cell
W-3 (280-149186-3)	5/27/21	13:20 Mountain		Water			X	X	1	Use Collision Cell
W-6 (280-149186-4)	5/25/21	15:15 Mountain		Water			X	X	1	Use Collision Cell
W-7 (280-149186-5)	5/27/21	10:00 Mountain		Water			X	X	1	Use Collision Cell
W-5B (280-149186-6)	5/26/21	10:50 Mountain		Water			X	X	1	Use Collision Cell
W-12 (280-149186-7)	5/28/21	08:50 Mountain		Water			X	X	1	Use Collision Cell
MW-1B (280-149186-8)	5/26/21	12:45 Mountain		Water			X	X	1	Use Collision Cell
W-2B (280-149186-9)	5/26/21	12:45 Mountain		Water			X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
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:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/2/21 1400		[signature]	6-3-21 1515	ETA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-570899.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149186-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 6/17/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S75

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)	6020A/3005A (MOD) 13 Total Metals (w/collision cell)	6010C/3005A (MOD) Boron	Total Number of containers	Special Instructions/Note:
Preservation Code:										
MW-2B (280-149186-10)	5/27/21	11:35 Mountain		Water			X	X	1	Use Collision Cell
MW-3 (280-149186-11)	5/26/21	15:45 Mountain		Water			X	X	1	Use Collision Cell
MW-4B (280-149186-12)	5/25/21	14:50 Mountain		Water			X	X	1	Use Collision Cell
MW-5 (280-149186-13)	5/28/21	08:00 Mountain		Water			X	X	1	Use Collision Cell
MW-6 (280-149186-14)	5/26/21	09:30 Mountain		Water			X	X	1	Use Collision Cell
MW-1B-DUP (280-149186-15)	5/26/21	13:00 Mountain		Water			X	X	1	Use Collision Cell
W-9 (280-149186-16)	5/27/21	08:45 Mountain		Water			X	X	1	Use Collision Cell
W-7-EB (280-149186-17)	5/27/21	10:40 Mountain		Water			X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *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:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Mathew

Cooler Received on 6-3-21 Opened on 6-3-21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 14.0 °C Corrected Cooler Temp. 14.1 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No
11. Sufficient quantity received to perform indicated analyses?	Yes	No
12. Are these work share samples and all listed on the COC?	Yes	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# HC022887
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-149186-1

Login Number: 149186
List Number: 1
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver

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.	False	Refer to Job Narrative for details.
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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-149186-1

Login Number: 149186
List Number: 2
Creator: Geiler, Autumn R

List Source: Eurofins TestAmerica, St. Louis
List Creation: 06/03/21 03:35 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.	N/A	
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-149186-1	W-11	54.2
280-149186-2	W-2A	25.5 X
280-149186-3	W-3	84.7
280-149186-4	W-6	84.7
280-149186-5	W-7	38.0 X
280-149186-6	W-5B	77.3
280-149186-7	W-12	95.0
280-149186-8	MW-1B	55.5
280-149186-9	W-2B	48.3
280-149186-10	MW-2B	98.4
280-149186-11	MW-3	81.6
280-149186-12	MW-4B	76.9
280-149186-13	MW-5	96.0
280-149186-14	MW-6	81.9
280-149186-15	MW-1B-DUP	92.2
280-149186-16	W-9	90.7
280-149186-17	W-7-EB	80.7
LCS 160-512827/1-A	Lab Control Sample	84.1
LCS 160-513098/1-A	Lab Control Sample	96.9
LCSD 160-512827/2-A	Lab Control Sample Dup	84.4
LCSD 160-513098/2-A	Lab Control Sample Dup	87.5
MB 160-512827/19-A	Method Blank	87.5
MB 160-513098/23-A	Method Blank	98.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-149186-1	W-11	54.2	87.5
280-149186-2	W-2A	25.5 X	87.5
280-149186-3	W-3	84.7	88.4
280-149186-4	W-6	84.7	88.1
280-149186-5	W-7	38.0 X	85.7
280-149186-6	W-5B	77.3	88.4
280-149186-7	W-12	95.0	93.5
280-149186-8	MW-1B	55.5	90.5
280-149186-9	W-2B	48.3	92.3
280-149186-10	MW-2B	98.4	95.8
280-149186-11	MW-3	81.6	89.6
280-149186-12	MW-4B	76.9	89.9
280-149186-13	MW-5	96.0	95.2
280-149186-14	MW-6	81.9	89.9
280-149186-15	MW-1B-DUP	92.2	93.5
280-149186-16	W-9	90.7	92.3
280-149186-17	W-7-EB	80.7	90.5

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-149186-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9320 - Radium-228 (GFPC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
LCS 160-512828/1-A	Lab Control Sample	84.1	89.0
LCS 160-513102/1-A	Lab Control Sample	96.9	92.3
LCSD 160-512828/2-A	Lab Control Sample Dup	84.4	89.0
LCSD 160-513102/2-A	Lab Control Sample Dup	87.5	93.8
MB 160-512828/19-A	Method Blank	87.5	92.0
MB 160-513102/23-A	Method Blank	98.1	96.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-149287-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
7/27/2021 10:00:06 AM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

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

Job ID: 280-149287-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-149287-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 06/02/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.2º C and 2.9º C.

DISSOLVED METALS- Method 6010C/6020A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- Method 6010C/6020A
Several samples required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Laboratory generated MS/MSD analysis data have been provided. The Antimony MS/MSD for method 6020A exhibited spike compound RPD recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Laboratory generated MS/MSD analysis data have been provided. The Barium MS/MSD for method 6020A exhibited spike compound RPD recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Calcium MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

GENERAL CHEMISTRY - VARIOUS
Several samples due to high analyte concentrations or matrix interferences required a dilution or prepped at a dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

The Total Suspended Solids sample duplicate analysis data performed on sample W-10B exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

Job ID: 280-149287-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

The pH sample duplicate analysis data associated with QC batch 280-538421exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The following samples have chromatographic interferences that could adversely impact the identification and quantitation of target analyte, Fluoride: W-10B, W-1, and W-5. These interferences could cause false positive and/or false negative results.

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

RADIUM-226 (GFPC)- Method 9315

The following samples were prepared at a reduced aliquot due to Matrix: W-10B, W-1, and W-5.

The method 9315 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-228- Method 9320

The following samples were prepared at a reduced aliquot due to Matrix: W-10B, W-1, and W-5.

The sample W-5 did not meet the requested limit (RL) due to the reduced sample volume attributed to the presence of matrix interference

Low levels of Radium -228 present in the method blank associated with QC batch 160-517540. Because the concentration in the method blank is not present at a level greater than the reporting limit, corrective action is deemed unnecessary.

The method 9320 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-226/RADIUM-228 (GFPC)

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

Detection Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-10B
Lab Sample ID: 280-149287-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.3		0.50	0.12	mg/L	5		6010C	Total Recoverable
Boron	5.5		0.50	0.12	mg/L	5		6010C	Dissolved
Arsenic	0.044		0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.020	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	480		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0030	J	0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Selenium	5.4		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0075		0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	5.2		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.048		0.025	0.0038	mg/L	5		6020A	Dissolved
Barium	0.018	J	0.025	0.011	mg/L	5		6020A	Dissolved
Calcium	470		5.0	2.9	mg/L	5		6020A	Dissolved
Cobalt	0.0036	J	0.0050	0.00095	mg/L	5		6020A	Dissolved
Selenium	5.2		0.025	0.0045	mg/L	5		6020A	Dissolved
Lithium	5.4		0.040	0.0083	mg/L	5		6020A	Dissolved
Thallium	0.0065		0.0050	0.0010	mg/L	5		6020A	Dissolved
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1000		60	20	mg/L	20		9056A	Total/NA
Sulfate	70000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	93000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	480		10	2.8	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-8B
Lab Sample ID: 280-149287-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.10	0.023	mg/L	1		6010C	Total Recoverable
Antimony	0.0051		0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Arsenic	0.26		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	2.5		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	460		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.032		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.16		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.50		0.0020	0.00098	mg/L	1		6020A	Total Recoverable
Molybdenum	0.11		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.31		0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	0.18		0.0050	0.00089	mg/L	1		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Client Sample ID: W-8B (Continued) — Lab Sample ID: 280-149287-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.0081		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.68		0.0080	0.0017	mg/L	1		6020A	Total Recoverable

Client Sample ID: W-1 — Lab Sample ID: 280-149287-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.0		0.50	0.12	mg/L	5		6010C	Total Recoverable
Boron	5.3		0.50	0.12	mg/L	5		6010C	Dissolved
Arsenic	0.0072	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.014	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	410		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0011	J	0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.019	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.72		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	2.2		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.014	J	0.025	0.0038	mg/L	5		6020A	Dissolved
Barium	0.011	J	0.025	0.011	mg/L	5		6020A	Dissolved
Calcium	410		5.0	2.9	mg/L	5		6020A	Dissolved
Molybdenum	0.019	J	0.050	0.0054	mg/L	5		6020A	Dissolved
Selenium	0.73		0.025	0.0045	mg/L	5		6020A	Dissolved
Lithium	2.2		0.040	0.0083	mg/L	5		6020A	Dissolved
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	730		30	10	mg/L	10		9056A	Total/NA
Sulfate	27000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	45000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	21		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5 — Lab Sample ID: 280-149287-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.2		0.50	0.12	mg/L	5		6010C	Total Recoverable
Boron	5.2		0.50	0.12	mg/L	5		6010C	Dissolved
Barium	0.10		0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	440		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cobalt	0.0088		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Chromium	0.0051	J	0.010	0.0049	mg/L	5		6020A	Total Recoverable
Molybdenum	0.039	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Lead	0.0027	J	0.0050	0.0023	mg/L	5		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-5 (Continued)
Lab Sample ID: 280-149287-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.13		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	1.4		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Barium	0.022	J	0.025	0.011	mg/L	5		6020A	Dissolved
Calcium	450		5.0	2.9	mg/L	5		6020A	Dissolved
Cobalt	0.0080		0.0050	0.00095	mg/L	5		6020A	Dissolved
Molybdenum	0.043	J	0.050	0.0054	mg/L	5		6020A	Dissolved
Selenium	0.027		0.025	0.0045	mg/L	5		6020A	Dissolved
Lithium	1.4		0.040	0.0083	mg/L	5		6020A	Dissolved
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	730		30	10	mg/L	10		9056A	Total/NA
Sulfate	29000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	42000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	540		17	4.6	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None
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.
TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-149287-1	W-10B	Water	06/02/21 09:45	06/02/21 15:50
280-149287-2	W-8B	Water	06/02/21 10:20	06/02/21 15:50
280-149287-3	W-1	Water	06/02/21 10:50	06/02/21 15:50
280-149287-4	W-5	Water	06/02/21 11:20	06/02/21 15:50

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.3**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 10:32	5

Client Sample ID: W-8B
Date Collected: 06/02/21 10:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.5**		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 12:37	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.0**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 10:36	5

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.2**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 10:41	5

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.5**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 11:02	5

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.3**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 10:54	5

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.2**		0.50	0.12	mg/L		06/07/21 14:00	06/09/21 10:58	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 22:49	5
Arsenic	**0.044**		0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 22:49	5
Barium	**0.020**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/09/21 22:49	5
Calcium	**480**		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 22:49	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 22:49	5
Cobalt	**0.0030**	**J**	0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 22:49	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 22:49	5
Molybdenum	ND		0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 22:49	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 22:49	5
Selenium	**5.4**		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 22:49	5
Thallium	**0.0075**		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 22:49	5
Lithium	**5.2**		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 22:49	5

Client Sample ID: W-8B
Date Collected: 06/02/21 10:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0051**		0.0020	0.00057	mg/L		06/08/21 14:00	06/18/21 00:07	1
Arsenic	**0.26**		0.0050	0.00075	mg/L		06/08/21 14:00	06/18/21 00:07	1
Barium	**2.5**		0.0050	0.0022	mg/L		06/08/21 14:00	06/18/21 00:07	1
Calcium	**460**		1.0	0.58	mg/L		06/08/21 14:00	06/18/21 00:07	1
Cadmium	**0.032**		0.0010	0.00020	mg/L		06/08/21 14:00	06/18/21 00:07	1
Cobalt	**0.16**		0.0010	0.00019	mg/L		06/08/21 14:00	06/18/21 00:07	1
Chromium	**0.50**		0.0020	0.00098	mg/L		06/08/21 14:00	06/18/21 00:07	1
Molybdenum	**0.11**		0.010	0.0011	mg/L		06/08/21 14:00	06/18/21 00:07	1
Lead	**0.31**		0.0010	0.00045	mg/L		06/08/21 14:00	06/18/21 00:07	1
Selenium	**0.18**		0.0050	0.00089	mg/L		06/08/21 14:00	06/18/21 00:07	1
Thallium	**0.0081**		0.0010	0.00020	mg/L		06/08/21 14:00	06/18/21 00:07	1
Lithium	**0.68**		0.0080	0.0017	mg/L		06/08/21 14:00	06/18/21 00:07	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 22:51	5
Arsenic	**0.0072**	**J**	0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 22:51	5
Barium	**0.014**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/09/21 22:51	5
Calcium	**410**		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 22:51	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 22:51	5
Cobalt	**0.0011**	**J**	0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 22:51	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 22:51	5
Molybdenum	**0.019**	**J**	0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 22:51	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 22:51	5
Selenium	**0.72**		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 22:51	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 22:51	5
Lithium	**2.2**		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 22:51	5

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 22:54	5
Arsenic	ND		0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 22:54	5
Barium	**0.10**		0.025	0.011	mg/L		06/07/21 14:00	06/09/21 22:54	5
Calcium	**440**		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 22:54	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 22:54	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.0088**		0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 22:54	5
Chromium	**0.0051**	**J**	0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 22:54	5
Molybdenum	**0.039**	**J**	0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 22:54	5
Lead	**0.0027**	**J**	0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 22:54	5
Selenium	**0.13**		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 22:54	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 22:54	5
Lithium	**1.4**		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 22:54	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.048**		0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 22:57	5
Barium	**0.018**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/09/21 22:57	5
Calcium	**470**		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 22:57	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 22:57	5
Cobalt	**0.0036**	**J**	0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 22:57	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 22:57	5
Molybdenum	ND		0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 22:57	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 22:57	5
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 22:57	5
Selenium	**5.2**		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 22:57	5
Lithium	**5.4**		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 22:57	5
Thallium	**0.0065**		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 22:57	5

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.014**	**J**	0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 22:59	5
Barium	**0.011**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/09/21 22:59	5
Calcium	**410**		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 22:59	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 22:59	5
Cobalt	ND		0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 22:59	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 22:59	5
Molybdenum	**0.019**	**J**	0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 22:59	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 22:59	5
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 22:59	5
Selenium	**0.73**		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 22:59	5
Lithium	**2.2**		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 22:59	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 22:59	5

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.0038	mg/L		06/07/21 14:00	06/09/21 23:02	5
Barium	**0.022**	**J**	0.025	0.011	mg/L		06/07/21 14:00	06/09/21 23:02	5

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	450		5.0	2.9	mg/L		06/07/21 14:00	06/09/21 23:02	5
Cadmium	ND		0.0050	0.00099	mg/L		06/07/21 14:00	06/09/21 23:02	5
Cobalt	0.0080		0.0050	0.00095	mg/L		06/07/21 14:00	06/09/21 23:02	5
Chromium	ND		0.010	0.0049	mg/L		06/07/21 14:00	06/09/21 23:02	5
Molybdenum	0.043	J	0.050	0.0054	mg/L		06/07/21 14:00	06/09/21 23:02	5
Lead	ND		0.0050	0.0023	mg/L		06/07/21 14:00	06/09/21 23:02	5
Antimony	ND		0.010	0.0029	mg/L		06/07/21 14:00	06/09/21 23:02	5
Selenium	0.027		0.025	0.0045	mg/L		06/07/21 14:00	06/09/21 23:02	5
Lithium	1.4		0.040	0.0083	mg/L		06/07/21 14:00	06/09/21 23:02	5
Thallium	ND		0.0050	0.0010	mg/L		06/07/21 14:00	06/09/21 23:02	5

General Chemistry

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			06/03/21 10:56	1
Temperature	22.0	HF	1.0	1.0	Degrees C			06/03/21 10:56	1
Chloride	1000		60	20	mg/L			06/16/21 19:16	20
Fluoride	ND		10	3.3	mg/L			06/16/21 19:16	20
Sulfate	70000		2500	520	mg/L			06/16/21 19:36	500
Total Dissolved Solids (TDS)	93000		1000	470	mg/L			06/07/21 13:12	1
Total Suspended Solids	480		10	2.8	mg/L			06/09/21 11:46	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			06/03/21 10:59	1
Temperature	21.6	HF	1.0	1.0	Degrees C			06/03/21 10:59	1
Chloride	730		30	10	mg/L			06/16/21 20:08	10
Fluoride	ND		5.0	1.7	mg/L			06/16/21 20:08	10
Sulfate	27000		2500	520	mg/L			06/16/21 20:57	500
Total Dissolved Solids (TDS)	45000		1000	470	mg/L			06/07/21 13:12	1
Total Suspended Solids	21		4.0	1.1	mg/L			06/09/21 11:46	1

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			06/03/21 11:03	1
Temperature	21.4	HF	1.0	1.0	Degrees C			06/03/21 11:03	1
Chloride	730		30	10	mg/L			06/16/21 21:30	10
Fluoride	ND		5.0	1.7	mg/L			06/16/21 21:30	10
Sulfate	29000		2500	520	mg/L			06/16/21 21:46	500
Total Dissolved Solids (TDS)	42000		1000	470	mg/L			06/07/21 13:12	1
Total Suspended Solids	540		17	4.6	mg/L			06/09/21 11:46	1

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.24		0.474	0.557	1.00	0.270	pCi/L	07/08/21 10:49	07/23/21 06:46	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.5		40 - 110	07/08/21 10:49	07/23/21 06:46	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.442		0.172	0.176	1.00	0.203	pCi/L	07/08/21 10:49	07/23/21 06:54	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.5		40 - 110	07/08/21 10:49	07/23/21 06:54	1

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	4.25		0.534	0.657	1.00	0.234	pCi/L	07/08/21 10:49	07/23/21 06:53	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.5		40 - 110	07/08/21 10:49	07/23/21 06:53	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	6.04		0.964	1.11	1.00	0.935	pCi/L	07/01/21 09:23	07/07/21 09:26	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.5		40 - 110	07/01/21 09:23	07/07/21 09:26	1
Y Carrier	89.6		40 - 110	07/01/21 09:23	07/07/21 09:26	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50
Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.06		0.539	0.571	1.00	0.670	pCi/L	07/01/21 09:23	07/07/21 09:26	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	73.5		40 - 110	07/01/21 09:23	07/07/21 09:26	1
Y Carrier	86.6		40 - 110	07/01/21 09:23	07/07/21 09:26	1

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50

Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	11.3	G	1.26	1.63	1.00	1.03	pCi/L	07/01/21 09:23	07/07/21 09:33	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	70.5		40 - 110	07/01/21 09:23	07/07/21 09:33	1
Y Carrier	87.5		40 - 110	07/01/21 09:23	07/07/21 09:33	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-10B
Date Collected: 06/02/21 09:45
Date Received: 06/02/21 15:50

Lab Sample ID: 280-149287-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	9.28		1.07	1.24	5.00	0.935	pCi/L		07/26/21 19:07	1

Client Sample ID: W-1
Date Collected: 06/02/21 10:50
Date Received: 06/02/21 15:50

Lab Sample ID: 280-149287-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	2.50		0.566	0.598	5.00	0.670	pCi/L		07/26/21 19:07	1

Client Sample ID: W-5
Date Collected: 06/02/21 11:20
Date Received: 06/02/21 15:50

Lab Sample ID: 280-149287-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	15.6		1.37	1.76	5.00	1.03	pCi/L		07/26/21 19:07	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-489366/1-A
Matrix: Water
Analysis Batch: 489705

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		06/07/21 14:00	06/08/21 16:08	1

Lab Sample ID: LCS 240-489366/2-A
Matrix: Water
Analysis Batch: 489705

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: MB 240-489582/1-A
Matrix: Water
Analysis Batch: 489985

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.023	mg/L		06/08/21 14:00	06/09/21 11:07	1

Lab Sample ID: LCS 240-489582/2-A
Matrix: Water
Analysis Batch: 489985

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.09		mg/L		109	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-489366/1-A
Matrix: Water
Analysis Batch: 489957

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489366

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		06/07/21 14:00	06/09/21 22:20	1
Barium	ND		0.0050	0.0022	mg/L		06/07/21 14:00	06/09/21 22:20	1
Calcium	ND		1.0	0.58	mg/L		06/07/21 14:00	06/09/21 22:20	1
Cadmium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/09/21 22:20	1
Cobalt	ND		0.0010	0.00019	mg/L		06/07/21 14:00	06/09/21 22:20	1
Chromium	ND		0.0020	0.00098	mg/L		06/07/21 14:00	06/09/21 22:20	1
Molybdenum	ND		0.010	0.0011	mg/L		06/07/21 14:00	06/09/21 22:20	1
Antimony	ND		0.0020	0.00057	mg/L		06/07/21 14:00	06/09/21 22:20	1
Lead	ND		0.0010	0.00045	mg/L		06/07/21 14:00	06/09/21 22:20	1
Selenium	ND		0.0050	0.00089	mg/L		06/07/21 14:00	06/09/21 22:20	1
Lithium	ND		0.0080	0.0017	mg/L		06/07/21 14:00	06/09/21 22:20	1
Thallium	ND		0.0010	0.00020	mg/L		06/07/21 14:00	06/09/21 22:20	1

Lab Sample ID: LCS 240-489366/3-A
Matrix: Water
Analysis Batch: 489957

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.986		mg/L		99	80 - 120
Barium	1.00	0.927		mg/L		93	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-489366/3-A
Matrix: Water
Analysis Batch: 489957

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489366

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25.0	24.3		mg/L		97	80 - 120
Cadmium	0.500	0.478		mg/L		96	80 - 120
Cobalt	0.500	0.517		mg/L		103	80 - 120
Chromium	0.500	0.488		mg/L		98	80 - 120
Molybdenum	0.500	0.479		mg/L		96	80 - 120
Antimony	0.100	0.0994		mg/L		99	80 - 120
Lead	0.500	0.505		mg/L		101	80 - 120
Selenium	1.00	0.924		mg/L		92	80 - 120
Lithium	0.500	0.516		mg/L		103	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: MB 240-489582/1-A
Matrix: Water
Analysis Batch: 491290

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		06/08/21 14:00	06/17/21 23:27	1
Barium	ND		0.0050	0.0022	mg/L		06/08/21 14:00	06/17/21 23:27	1
Calcium	ND		1.0	0.58	mg/L		06/08/21 14:00	06/17/21 23:27	1
Cadmium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:27	1
Cobalt	ND		0.0010	0.00019	mg/L		06/08/21 14:00	06/17/21 23:27	1
Chromium	ND		0.0020	0.00098	mg/L		06/08/21 14:00	06/17/21 23:27	1
Molybdenum	ND		0.010	0.0011	mg/L		06/08/21 14:00	06/17/21 23:27	1
Antimony	ND		0.0020	0.00057	mg/L		06/08/21 14:00	06/17/21 23:27	1
Lead	ND		0.0010	0.00045	mg/L		06/08/21 14:00	06/17/21 23:27	1
Selenium	ND		0.0050	0.00089	mg/L		06/08/21 14:00	06/17/21 23:27	1
Lithium	ND		0.0080	0.0017	mg/L		06/08/21 14:00	06/17/21 23:27	1
Thallium	ND		0.0010	0.00020	mg/L		06/08/21 14:00	06/17/21 23:27	1

Lab Sample ID: LCS 240-489582/3-A
Matrix: Water
Analysis Batch: 491290

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 489582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	1.01		mg/L		101	80 - 120
Barium	1.00	0.977		mg/L		98	80 - 120
Calcium	25.0	25.7		mg/L		103	80 - 120
Cadmium	0.500	0.473		mg/L		95	80 - 120
Cobalt	0.500	0.506		mg/L		101	80 - 120
Chromium	0.500	0.490		mg/L		98	80 - 120
Molybdenum	0.500	0.471		mg/L		94	80 - 120
Antimony	0.100	0.100		mg/L		100	80 - 120
Lead	0.500	0.497		mg/L		99	80 - 120
Selenium	1.00	0.928		mg/L		93	80 - 120
Lithium	0.500	0.485		mg/L		97	80 - 120
Thallium	1.00	0.936		mg/L		94	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-538421/4
Matrix: Water
Analysis Batch: 538421

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-540025/6
Matrix: Water
Analysis Batch: 540025

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			06/16/21 11:56	1
Fluoride	ND		0.50	0.17	mg/L			06/16/21 11:56	1
Sulfate	ND		5.0	1.0	mg/L			06/16/21 11:56	1

Lab Sample ID: LCS 280-540025/4
Matrix: Water
Analysis Batch: 540025

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	96.2		mg/L		96	90 - 110
Fluoride	5.00	4.56		mg/L		91	90 - 110
Sulfate	100	97.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-540025/5
Matrix: Water
Analysis Batch: 540025

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	100	96.4		mg/L		96	90 - 110	0	10
Fluoride	5.00	4.59		mg/L		92	90 - 110	1	10
Sulfate	100	97.7		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 280-540025/3
Matrix: Water
Analysis Batch: 540025

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	3.87		mg/L		77	50 - 150
Fluoride	0.500	0.460	J	mg/L		92	50 - 150
Sulfate	5.00	4.12	J	mg/L		82	50 - 150

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

Lab Sample ID: MB 280-538889/1
Matrix: Water
Analysis Batch: 538889

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			06/07/21 13:12	1

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

Lab Sample ID: LCS 280-538889/2
Matrix: Water
Analysis Batch: 538889

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 (TDS)			501	497		mg/L		99	88 - 114		

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-539178/1
Matrix: Water
Analysis Batch: 539178

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/09/21 11:46	1

Lab Sample ID: LCS 280-539178/2
Matrix: Water
Analysis Batch: 539178

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	88.8		mg/L		89	79 - 114		

Lab Sample ID: 280-149287-1 DU
Matrix: Water
Analysis Batch: 539178

Client Sample ID: W-10B
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	480			952	F3	mg/L				66	10

Lab Sample ID: MB 280-539491/1
Matrix: Water
Analysis Batch: 539491

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			06/11/21 10:53	1

Lab Sample ID: LCS 280-539491/2
Matrix: Water
Analysis Batch: 539491

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	100		mg/L		100	79 - 114		

Lab Sample ID: LCSD 280-539491/3
Matrix: Water
Analysis Batch: 539491

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 Suspended Solids			100	85.6		mg/L		86	79 - 114	16	20

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-517534/4-A
Matrix: Water
Analysis Batch: 519867

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 517534

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.02492	U	0.0517	0.0517	1.00	0.118	pCi/L	07/07/21 12:38	07/23/21 06:46	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.6*		*40 - 110*	*07/07/21 12:38*	*07/23/21 06:46*	*1*

Lab Sample ID: LCS 160-517534/1-A
Matrix: Water
Analysis Batch: 519867

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 517534

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	10.29		1.08	1.00	0.106	pCi/L	91	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.1*		*40 - 110*

Lab Sample ID: LCSD 160-517534/2-A
Matrix: Water
Analysis Batch: 519867

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 517534

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	11.35		1.17	1.00	0.113	pCi/L	100	75 - 125	0.47	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*81.6*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-516815/23-A
Matrix: Water
Analysis Batch: 517540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516815

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.4999		0.295	0.298	1.00	0.445	pCi/L	07/01/21 09:23	07/07/21 09:27	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*75.6*		*40 - 110*	*07/01/21 09:23*	*07/07/21 09:27*	*1*
Y Carrier	*88.7*		*40 - 110*	*07/01/21 09:23*	*07/07/21 09:27*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-516815/1-A
Matrix: Water
Analysis Batch: 517565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516815

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.55	10.58		1.24	1.00	0.461	pCi/L	111	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*80.1*		*40 - 110*
Y Carrier	*84.8*		*40 - 110*

Lab Sample ID: LCSD 160-516815/2-A
Matrix: Water
Analysis Batch: 517565

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 516815

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.55	11.10		1.28	1.00	0.446	pCi/L	116	75 - 125	0.21	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*81.6*		*40 - 110*
Y Carrier	*87.8*		*40 - 110*

Metals

Filtration Batch: 489343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Dissolved	Water	FILTRATION	
280-149287-3	W-1	Dissolved	Water	FILTRATION	
280-149287-4	W-5	Dissolved	Water	FILTRATION	

Prep Batch: 489366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Dissolved	Water	3005A	489343
280-149287-1	W-10B	Total Recoverable	Water	3005A	
280-149287-3	W-1	Dissolved	Water	3005A	489343
280-149287-3	W-1	Total Recoverable	Water	3005A	
280-149287-4	W-5	Dissolved	Water	3005A	489343
280-149287-4	W-5	Total Recoverable	Water	3005A	
MB 240-489366/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-489366/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-489366/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 489582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-2	W-8B	Total Recoverable	Water	3005A	
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-489582/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-489582/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 489705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-489366/1-A	Method Blank	Total Recoverable	Water	6010C	489366
LCS 240-489366/2-A	Lab Control Sample	Total Recoverable	Water	6010C	489366

Analysis Batch: 489957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Dissolved	Water	6020A	489366
280-149287-1	W-10B	Total Recoverable	Water	6020A	489366
280-149287-3	W-1	Dissolved	Water	6020A	489366
280-149287-3	W-1	Total Recoverable	Water	6020A	489366
280-149287-4	W-5	Dissolved	Water	6020A	489366
280-149287-4	W-5	Total Recoverable	Water	6020A	489366
MB 240-489366/1-A	Method Blank	Total Recoverable	Water	6020A	489366
LCS 240-489366/3-A	Lab Control Sample	Total Recoverable	Water	6020A	489366

Analysis Batch: 489985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Dissolved	Water	6010C	489366
280-149287-1	W-10B	Total Recoverable	Water	6010C	489366
280-149287-2	W-8B	Total Recoverable	Water	6010C	489582
280-149287-3	W-1	Dissolved	Water	6010C	489366
280-149287-3	W-1	Total Recoverable	Water	6010C	489366
280-149287-4	W-5	Dissolved	Water	6010C	489366
280-149287-4	W-5	Total Recoverable	Water	6010C	489366
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	6010C	489582
LCS 240-489582/2-A	Lab Control Sample	Total Recoverable	Water	6010C	489582

QC Association Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Analysis Batch: 491290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-2	W-8B	Total Recoverable	Water	6020A	489582
MB 240-489582/1-A	Method Blank	Total Recoverable	Water	6020A	489582
LCS 240-489582/3-A	Lab Control Sample	Total Recoverable	Water	6020A	489582

General Chemistry

Analysis Batch: 538421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	9040B	
280-149287-3	W-1	Total/NA	Water	9040B	
280-149287-4	W-5	Total/NA	Water	9040B	
LCS 280-538421/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 538889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	SM 2540C	
280-149287-3	W-1	Total/NA	Water	SM 2540C	
280-149287-4	W-5	Total/NA	Water	SM 2540C	
MB 280-538889/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-538889/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 539178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	SM 2540D	
280-149287-3	W-1	Total/NA	Water	SM 2540D	
280-149287-4	W-5	Total/NA	Water	SM 2540D	
MB 280-539178/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-539178/2	Lab Control Sample	Total/NA	Water	SM 2540D	
280-149287-1 DU	W-10B	Total/NA	Water	SM 2540D	

Analysis Batch: 539491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-539491/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-539491/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-539491/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 540025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	9056A	
280-149287-1	W-10B	Total/NA	Water	9056A	
280-149287-3	W-1	Total/NA	Water	9056A	
280-149287-3	W-1	Total/NA	Water	9056A	
280-149287-4	W-5	Total/NA	Water	9056A	
280-149287-4	W-5	Total/NA	Water	9056A	
MB 280-540025/6	Method Blank	Total/NA	Water	9056A	
LCS 280-540025/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-540025/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-540025/3	Lab Control Sample	Total/NA	Water	9056A	

QC Association Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 516815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	PrecSep_0	
280-149287-3	W-1	Total/NA	Water	PrecSep_0	
280-149287-4	W-5	Total/NA	Water	PrecSep_0	
MB 160-516815/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-516815/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-516815/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Prep Batch: 517534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-149287-1	W-10B	Total/NA	Water	PrecSep-21	
280-149287-3	W-1	Total/NA	Water	PrecSep-21	
280-149287-4	W-5	Total/NA	Water	PrecSep-21	
MB 160-517534/4-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-517534/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-517534/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Client Sample ID: W-10B
Lab Sample ID: 280-149287-1
Date Collected: 06/02/21 09:45
Matrix: Water
Date Received: 06/02/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		5			489985	06/09/21 11:02	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		5			489985	06/09/21 10:32	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		5			489957	06/09/21 22:57	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			489957	06/09/21 22:49	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538421	06/03/21 10:56	QJB	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	540025	06/16/21 19:16	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	540025	06/16/21 19:36	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538889	06/07/21 13:12	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	100 mL	250 mL	539178	06/09/21 11:46	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			500.60 mL	1.0 g	517534	07/08/21 10:49	JEC	TAL SL
Total/NA	Analysis	9315		1			519867	07/23/21 06:46	SCB	TAL SL
Total/NA	Prep	PrecSep_0			500.60 mL	1.0 g	516815	07/01/21 09:23	MJ	TAL SL
Total/NA	Analysis	9320		1			517540	07/07/21 09:26	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			520291	07/26/21 19:07	SCB	TAL SL

Client Sample ID: W-8B
Lab Sample ID: 280-149287-2
Date Collected: 06/02/21 10:20
Matrix: Water
Date Received: 06/02/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		1			489985	06/09/21 12:37	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489582	06/08/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		1			491290	06/18/21 00:07	DTN	TAL CAN

Client Sample ID: W-1
Lab Sample ID: 280-149287-3
Date Collected: 06/02/21 10:50
Matrix: Water
Date Received: 06/02/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		5			489985	06/09/21 10:54	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		5			489985	06/09/21 10:36	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		5			489957	06/09/21 22:59	DTN	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-149287-3
Date Collected: 06/02/21 10:50
Matrix: Water
Date Received: 06/02/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			489957	06/09/21 22:51	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538421	06/03/21 10:59	QJB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	540025	06/16/21 20:08	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	540025	06/16/21 20:57	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538889	06/07/21 13:12	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	539178	06/09/21 11:46	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			750.43 mL	1.0 g	517534	07/08/21 10:49	JEC	TAL SL
Total/NA	Analysis	9315		1			519861	07/23/21 06:54	SCB	TAL SL
Total/NA	Prep	PrecSep_0			750.43 mL	1.0 g	516815	07/01/21 09:23	MJ	TAL SL
Total/NA	Analysis	9320		1			517540	07/07/21 09:26	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			520291	07/26/21 19:07	SCB	TAL SL

Client Sample ID: W-5
Lab Sample ID: 280-149287-4
Date Collected: 06/02/21 11:20
Matrix: Water
Date Received: 06/02/21 15:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6010C		5			489985	06/09/21 10:58	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010C		5			489985	06/09/21 10:41	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	489343	06/07/21 11:45	MRL	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Dissolved	Analysis	6020A		5			489957	06/09/21 23:02	DTN	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	489366	06/07/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020A		5			489957	06/09/21 22:54	DTN	TAL CAN
Total/NA	Analysis	9040B		1			538421	06/03/21 11:03	QJB	TAL DEN
Total/NA	Analysis	9056A		10	5 mL	5 mL	540025	06/16/21 21:30	JMB	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	540025	06/16/21 21:46	JMB	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	538889	06/07/21 13:12	LRB	TAL DEN
Total/NA	Analysis	SM 2540D		1	60 mL	250 mL	539178	06/09/21 11:46	LRB	TAL DEN
Total/NA	Prep	PrecSep-21			499.42 mL	1.0 g	517534	07/08/21 10:49	JEC	TAL SL
Total/NA	Analysis	9315		1			519861	07/23/21 06:53	SCB	TAL SL
Total/NA	Prep	PrecSep_0			499.42 mL	1.0 g	516815	07/01/21 09:23	MJ	TAL SL
Total/NA	Analysis	9320		1			517539	07/07/21 09:33	ANW	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			520291	07/26/21 19:07	SCB	TAL SL

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL SL = Eurofins TestAmerica, St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	06-30-21

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-21
Iowa	State	421	06-01-21 *
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-21
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	004553	11-30-21
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-21
Kentucky (DW)	State	KY90125	01-01-22
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-21
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-21
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-21 *
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-21
New Jersey	NELAP	MO002	07-01-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-21 *
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-21
Oregon	NELAP	4157	09-01-21
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542019-11	07-31-21
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-21
West Virginia DEP	State	381	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

Denver #280

eurofins | Environment Testing America

Client Information	Sampler: A-Morgan	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No:
Client Contact: Molly Reeves	Phone: 832-418-3307	E-Mail: Danielle.Harrington@eurofinset.com		Page: Page:
Company: HDR Inc				Job #:
Address: 9781 S. Meridian Blvd Suite 400	Due Date Requested:			
City: Englewood	TAT Requested (days):			
State, Zip: CO, 80112				
Phone: 734-263-7138(Tel)	PO #: DEN-020			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Colorado Groundwater- CCR	SSOW#:			

Analysis Requested

Sample Identification	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)	2540C_Calcd - Total Dissolved Solids (TDS)	6010C Boron, 6020A Appli+IV, ~~7470A Hg~~	9040B pH, 9056A_28D Anions (Cl, F, SO4)	2540D - Total Suspended Solids	9315_Ra226, 9320_Ra228, Ra226R$Ra228 combined	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	N	D		
~~MW-2~~ W-10B	6/2/21	0945	G	Water	N	N	X	X	X	X	X	6	Lab filter dissolved metals
~~MW-3~~ W-8B	6/2/21	1020	G	Water	N	N		X				1	
~~MW-4~~ W-1	6/2/21	1050	G	Water	N	N	X	X	X	X	X	7	Dont analyze for Beryllium
~~MW-4B~~ W-5	6/2/21	1120	G	Water	N	N	X	X	X	X	X	7	
~~MW-5~~				Water									
~~MW-6~~				Water									Contact Molly Reeves for QuoNon 734-263-7138
~~DUP~~				Water									
~~DUP~~				Water									
~~EB~~				Water									

280-149287 Chain of Custody

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	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	6/2/21 1550	HDR		06/02/2021 1550	EMDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 2.5, 0.8 IR# CF+0.4

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-571232.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149287-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 7/1/2021			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-10B (280-149287-1)	6/2/21	09:45 Mountain		Water			X	X	X	1	
W-1 (280-149287-3)	6/2/21	10:50 Mountain		Water			X	X	X	2	
W-5 (280-149287-4)	6/2/21	11:20 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *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:	Date/Time: 6/3/21 1325	Company	Received by: FE	Date/Time:	Company
Relinquished by: FE	Date/Time:	Company	Received by: Sim Walpin	Date/Time: 6/4/21 0900	Company ETTSLR
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

4.0/4.1

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-571231.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-149287-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 7/1/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S84, W115

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=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020A/3005A (MOD) 13 Total Metals (w/collision cell)	6010C/3005A (MOD) Boron	6010C/FILTRATION (MOD) Boron	6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
W-10B (280-149287-1)	6/2/21	09:45 Mountain		Water			X	X	X	X	2	Use Collision Cell
W-8B (280-149287-2)	6/2/21	10:20 Mountain		Water			X	X			1	Use Collision Cell
W-1 (280-149287-3)	6/2/21	10:50 Mountain		Water			X	X	X	X	2	Use Collision Cell
W-5 (280-149287-4)	6/2/21	11:20 Mountain		Water			X	X	X	X	2	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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	Date/Time	Company	Received by	Date/Time	Company
	6/3/21 1340			6-4-21 1430	EDA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 11/01/2020

7/27/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Denver Site Name _____ Cooler unpacked by: Trent C

Cooler Received on 6-4-21 Opened on 6-4-21

FedEx: 1st Grd ~~Exp~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam ~~Plastic Bag~~ None Other _____

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF **+0.1** °C) Observed Cooler Temp. 4.0 °C Corrected Cooler Temp. 4.1 °C
   IR GUN #IR-12 (CF **+0.2**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?	(Y)	(N)
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	~~Yes~~	~~No~~
12. Are these work share samples and all listed on the COC?	Yes	(No)
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	(Yes)	No NA
14. Were VOAs on the COC?	Yes	(No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

pH Strip Lot# **HC022887**

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

_____

_____

_____

_____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) ~~All~~ WB (280-149287-2) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-149287-1

Login Number: 149287
List Number: 1
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver

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.	N/A	
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.	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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-149287-1

Login Number: 149287
List Number: 2
Creator: Worthington, Sierra M

List Source: Eurofins TestAmerica, St. Louis
List Creation: 06/04/21 10:51 AM

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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-149287-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-149287-1	W-10B	70.5
280-149287-3	W-1	73.5
280-149287-4	W-5	70.5
LCS 160-517534/1-A	Lab Control Sample	80.1
LCSD 160-517534/2-A	Lab Control Sample Dup	81.6
MB 160-517534/4-A	Method Blank	75.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-149287-1	W-10B	70.5	89.6
280-149287-3	W-1	73.5	86.6
280-149287-4	W-5	70.5	87.5
LCS 160-516815/1-A	Lab Control Sample	80.1	84.8
LCSD 160-516815/2-A	Lab Control Sample Dup	81.6	87.8
MB 160-516815/23-A	Method Blank	75.6	88.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-155950-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
12/13/2021 12:36:48 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-155950-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-155950-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/19/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 3.1°C and 3.6°C.

TOTAL RECOVERABLE METALS- METHDO 6010C/6020A

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD for Calcium method 6010C exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

GENERAL CHEMISTRY- VARIOUS

Several samples required dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

Please note that the recoveries, for the Fluoride laboratory generated MS/MSD, are within QC limits; however, these are estimated values as the concentrations exceeded the calibration range. Method precision and accuracy has been verified by the acceptable LCS/LCSD analysis data; therefore, corrective action is deemed unnecessary.

The following samples has chromatographic interferences that could adversely impact the identification and quantitation of fluoride: MW-1 (280-155950-1), MW-2B (280-155950-2), MW-3 (280-155950-3), MW-4B (280-155950-4), MW-5 (280-155950-5), MW-6 (280-155950-6) and MW-6D (280-155950-7) These interferences could cause false positive and/or false negative results.

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

Detection Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1 — Lab Sample ID: 280-155950-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.0		0.20	0.11	mg/L	2		6010C	Total Recoverable
Calcium	420000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	310	J	600	200	mg/L	200		9056A	Total/NA
Fluoride	20		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	12000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	20000		1000	470	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-2B — Lab Sample ID: 280-155950-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.50	0.29	mg/L	5		6010C	Total Recoverable
Calcium	390000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	560	J	600	200	mg/L	200		9056A	Total/NA
Fluoride	41		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	31000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	43000		1000	470	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 280-155950-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.6		0.50	0.29	mg/L	5		6010C	Total Recoverable
Calcium	280000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	380	J	600	200	mg/L	200		9056A	Total/NA
Fluoride	50		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	38000		1000	210	mg/L	200		9056A	Total/NA
Total Suspended Solids	24		4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	58000	H	1000	470	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-4B — Lab Sample ID: 280-155950-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.53		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	530000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	200		60	20	mg/L	20		9056A	Total/NA
Fluoride	7.1		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	3000		100	21	mg/L	20		9056A	Total/NA
Total Suspended Solids	4.4		4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	6200		40	19	mg/L	1		SM2540 C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Denver

Detection Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-5 — Lab Sample ID: 280-155950-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.2		0.50	0.29	mg/L	5		6010C	Total Recoverable
Calcium	400000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.1	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1600		300	100	mg/L	100		9056A	Total/NA
Fluoride	33		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	18000		500	100	mg/L	100		9056A	Total/NA
Total Suspended Solids	5.6		4.0	1.1	mg/L	1		SM 2540D	Total/NA
Total Dissolved Solids (TDS)	28000		1000	470	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 280-155950-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.1		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	410000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220		150	51	mg/L	50		9056A	Total/NA
Fluoride	2.0		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	4300		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6500		40	19	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-6D — Lab Sample ID: 280-155950-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.057	mg/L	1		6010C	Total Recoverable
Calcium	430000		1000	580	ug/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.0	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	220		150	51	mg/L	50		9056A	Total/NA
Fluoride	1.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	4200		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	6500		40	19	mg/L	1		SM2540 C	Total/NA

Client Sample ID: MW-6EB — Lab Sample ID: 280-155950-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	6.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	7.0	J	10	4.7	mg/L	1		SM2540 C	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
SM2540 C	Total Dissolved Solids	SM18	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-155950-1	MW-1	Water	11/18/21 13:10	11/19/21 14:50
280-155950-2	MW-2B	Water	11/18/21 14:40	11/19/21 14:50
280-155950-3	MW-3	Water	11/16/21 11:20	11/19/21 14:50
280-155950-4	MW-4B	Water	11/18/21 09:35	11/19/21 14:50
280-155950-5	MW-5	Water	11/18/21 15:10	11/19/21 14:50
280-155950-6	MW-6	Water	11/18/21 11:10	11/19/21 14:50
280-155950-7	MW-6D	Water	11/18/21 11:15	11/19/21 14:50
280-155950-8	MW-6EB	Water	11/18/21 11:30	11/19/21 14:50

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-1
Date Collected: 11/18/21 13:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0		0.20	0.11	mg/L		11/24/21 14:00	11/30/21 16:10	2

Client Sample ID: MW-2B
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.50	0.29	mg/L		11/24/21 14:00	11/30/21 16:15	5

Client Sample ID: MW-3
Date Collected: 11/16/21 11:20
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.6		0.50	0.29	mg/L		11/24/21 14:00	11/30/21 16:19	5

Client Sample ID: MW-4B
Date Collected: 11/18/21 09:35
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.53		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:24	1

Client Sample ID: MW-5
Date Collected: 11/18/21 15:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.2		0.50	0.29	mg/L		11/24/21 14:00	11/30/21 16:28	5

Client Sample ID: MW-6
Date Collected: 11/18/21 11:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.1		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:33	1

Client Sample ID: MW-6D
Date Collected: 11/18/21 11:15
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:46	1

Client Sample ID: MW-6EB
Date Collected: 11/18/21 11:30
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:51	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-1
Date Collected: 11/18/21 13:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	420000		1000	580	ug/L		11/24/21 14:00	11/29/21 16:19	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-2B
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**390000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:26	1

Client Sample ID: MW-3
Date Collected: 11/16/21 11:20
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**280000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:29	1

Client Sample ID: MW-4B
Date Collected: 11/18/21 09:35
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**530000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:31	1

Client Sample ID: MW-5
Date Collected: 11/18/21 15:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**400000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:34	1

Client Sample ID: MW-6
Date Collected: 11/18/21 11:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**410000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:37	1

Client Sample ID: MW-6D
Date Collected: 11/18/21 11:15
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**430000**		1000	580	ug/L		11/24/21 14:00	11/29/21 16:39	1

Client Sample ID: MW-6EB
Date Collected: 11/18/21 11:30
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1000	580	ug/L		11/24/21 14:00	11/29/21 16:42	1

General Chemistry

Client Sample ID: MW-1
Date Collected: 11/18/21 13:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.2**	**HF**	0.1	0.1	SU			12/03/21 13:35	1
Temperature	**20.6**	**HF**	1.0	1.0	Degrees C			12/03/21 13:35	1
Chloride	**310**	**J**	600	200	mg/L			12/02/21 19:52	200
Fluoride	**20**		2.5	0.83	mg/L			12/10/21 12:40	5
Sulfate	**12000**		1000	210	mg/L			12/02/21 19:52	200
Total Suspended Solids	ND	H	4.0	1.1	mg/L			11/29/21 11:36	1
Total Dissolved Solids (TDS)	**20000**		1000	470	mg/L			11/24/21 09:11	1

General Chemistry

Client Sample ID: MW-2B
Date Collected: 11/18/21 14:40
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			12/03/21 13:39	1
Temperature	21.1	HF	1.0	1.0	Degrees C			12/03/21 13:39	1
Chloride	560	J	600	200	mg/L			12/02/21 20:20	200
Fluoride	41		2.5	0.83	mg/L			12/10/21 13:10	5
Sulfate	31000		1000	210	mg/L			12/02/21 20:20	200
Total Suspended Solids	ND	H	4.0	1.1	mg/L			11/29/21 11:36	1
Total Dissolved Solids (TDS)	43000		1000	470	mg/L			11/24/21 09:11	1

Client Sample ID: MW-3
Date Collected: 11/16/21 11:20
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU			12/03/21 13:31	1
Temperature	20.4	HF	1.0	1.0	Degrees C			12/03/21 13:31	1
Chloride	380	J	600	200	mg/L			12/02/21 21:16	200
Fluoride	50		2.5	0.83	mg/L			12/10/21 13:39	5
Sulfate	38000		1000	210	mg/L			12/02/21 21:16	200
Total Suspended Solids	24		4.0	1.1	mg/L			11/23/21 19:36	1
Total Dissolved Solids (TDS)	58000	H	1000	470	mg/L			12/03/21 09:53	1

Client Sample ID: MW-4B
Date Collected: 11/18/21 09:35
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			12/03/21 13:59	1
Temperature	21.5	HF	1.0	1.0	Degrees C			12/03/21 13:59	1
Chloride	200		60	20	mg/L			12/02/21 21:58	20
Fluoride	7.1		0.50	0.17	mg/L			12/10/21 15:24	1
Sulfate	3000		100	21	mg/L			12/02/21 21:58	20
Total Suspended Solids	4.4		4.0	1.1	mg/L			11/24/21 16:20	1
Total Dissolved Solids (TDS)	6200		40	19	mg/L			11/24/21 09:11	1

Client Sample ID: MW-5
Date Collected: 11/18/21 15:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			12/03/21 13:46	1
Temperature	22.1	HF	1.0	1.0	Degrees C			12/03/21 13:46	1
Chloride	1600		300	100	mg/L			12/03/21 01:14	100
Fluoride	33		2.5	0.83	mg/L			12/10/21 16:09	5
Sulfate	18000		500	100	mg/L			12/03/21 01:14	100
Total Suspended Solids	5.6		4.0	1.1	mg/L			11/24/21 16:20	1
Total Dissolved Solids (TDS)	28000		1000	470	mg/L			11/24/21 09:11	1

Client Sample ID: MW-6
Date Collected: 11/18/21 11:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU			12/03/21 14:03	1
Temperature	21.2	HF	1.0	1.0	Degrees C			12/03/21 14:03	1

General Chemistry (Continued)

Client Sample ID: MW-6
Date Collected: 11/18/21 11:10
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**220**		150	51	mg/L			12/03/21 00:32	50
Fluoride	**2.0**		0.50	0.17	mg/L			12/10/21 16:24	1
Sulfate	**4300**		250	52	mg/L			12/03/21 00:32	50
Total Suspended Solids	ND	H	4.0	1.1	mg/L			11/29/21 11:36	1
Total Dissolved Solids (TDS)	**6500**		40	19	mg/L			11/24/21 09:11	1

Client Sample ID: MW-6D
Date Collected: 11/18/21 11:15
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.5**	**HF**	0.1	0.1	SU			12/03/21 13:43	1
Temperature	**22.0**	**HF**	1.0	1.0	Degrees C			12/03/21 13:43	1
Chloride	**220**		150	51	mg/L			12/03/21 01:00	50
Fluoride	**1.9**		0.50	0.17	mg/L			12/10/21 16:53	1
Sulfate	**4200**		250	52	mg/L			12/03/21 01:00	50
Total Suspended Solids	ND	H	4.0	1.1	mg/L			11/29/21 11:36	1
Total Dissolved Solids (TDS)	**6500**		40	19	mg/L			11/24/21 09:11	1

Client Sample ID: MW-6EB
Date Collected: 11/18/21 11:30
Date Received: 11/19/21 14:50
Lab Sample ID: 280-155950-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**6.0**	**HF**	0.1	0.1	SU			12/06/21 14:04	1
Temperature	**20.6**	**HF**	1.0	1.0	Degrees C			12/06/21 14:04	1
Chloride	ND		3.0	1.0	mg/L			12/02/21 22:26	1
Fluoride	ND		0.50	0.17	mg/L			12/02/21 22:26	1
Sulfate	ND		5.0	1.0	mg/L			12/02/21 22:26	1
Total Suspended Solids	ND		4.0	1.1	mg/L			11/24/21 16:20	1
Total Dissolved Solids (TDS)	**7.0**	**J**	10	4.7	mg/L			11/24/21 09:11	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-514527/1-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		11/24/21 14:00	11/30/21 16:01	1

Lab Sample ID: LCS 240-514527/2-A
Matrix: Water
Analysis Batch: 515113

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.993		mg/L		99	80 - 120

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-514527/1-A
Matrix: Water
Analysis Batch: 515043

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1000	580	ug/L		11/24/21 14:00	11/29/21 16:02	1

Lab Sample ID: LCS 240-514527/3-A
Matrix: Water
Analysis Batch: 515043

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 514527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	25000	24200		ug/L		97	80 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-559562/28
Matrix: Water
Analysis Batch: 559562

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.1		SU		101	99 - 101

Lab Sample ID: LCSD 280-559562/5
Matrix: Water
Analysis Batch: 559562

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
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101	0	5

Lab Sample ID: LCS 280-559796/4
Matrix: Water
Analysis Batch: 559796

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-559384/141
Matrix: Water
Analysis Batch: 559384

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/03/21 00:18	1
Fluoride	ND		0.50	0.17	mg/L			12/03/21 00:18	1
Sulfate	ND		5.0	1.0	mg/L			12/03/21 00:18	1

Lab Sample ID: MB 280-559384/6
Matrix: Water
Analysis Batch: 559384

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/02/21 12:37	1
Fluoride	ND		0.50	0.17	mg/L			12/02/21 12:37	1
Sulfate	ND		5.0	1.0	mg/L			12/02/21 12:37	1

Lab Sample ID: LCS 280-559384/137
Matrix: Water
Analysis Batch: 559384

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			100	101		mg/L		101	90 - 110		
Fluoride			5.00	5.30		mg/L		106	90 - 110		
Sulfate			100	102		mg/L		102	90 - 110		

Lab Sample ID: LCS 280-559384/4
Matrix: Water
Analysis Batch: 559384

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			100	101		mg/L		101	90 - 110		
Fluoride			5.00	5.32		mg/L		106	90 - 110		
Sulfate			100	101		mg/L		101	90 - 110		

Lab Sample ID: LCSD 280-559384/140
Matrix: Water
Analysis Batch: 559384

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			100	101		mg/L		101	90 - 110	0	10
Fluoride			5.00	5.35		mg/L		107	90 - 110	1	10
Sulfate			100	102		mg/L		102	90 - 110	0	10

Lab Sample ID: LCSD 280-559384/5
Matrix: Water
Analysis Batch: 559384

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			100	101		mg/L		101	90 - 110	0	10
Fluoride			5.00	5.27		mg/L		105	90 - 110	1	10
Sulfate			100	101		mg/L		101	90 - 110	0	10

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-559384/3
Matrix: Water
Analysis Batch: 559384

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			5.00	4.78		mg/L		96	50 - 150		
Fluoride			0.500	0.734		mg/L		147	50 - 150		
Sulfate			5.00	4.78	J	mg/L		96	50 - 150		

Lab Sample ID: 280-155950-8 MS
Matrix: Water
Analysis Batch: 559384

Client Sample ID: MW-6EB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	ND		50.0	53.6		mg/L		107	80 - 120		
Fluoride	ND		5.00	5.01		mg/L		100	80 - 120		
Sulfate	ND		50.0	54.0		mg/L		108	80 - 120		

Lab Sample ID: 280-155950-8 MSD
Matrix: Water
Analysis Batch: 559384

Client Sample ID: MW-6EB
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		50.0	55.9		mg/L		112	80 - 120	4	20
Fluoride	ND		5.00	5.20		mg/L		104	80 - 120	4	20
Sulfate	ND		50.0	56.2		mg/L		112	80 - 120	4	20

Lab Sample ID: 280-155950-8 DU
Matrix: Water
Analysis Batch: 559384

Client Sample ID: MW-6EB
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Chloride	ND		ND		mg/L		NC	15
Fluoride	ND		ND		mg/L		NC	15
Sulfate	ND		ND		mg/L		NC	15

Lab Sample ID: MB 280-560194/15
Matrix: Water
Analysis Batch: 560194

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			12/09/21 19:14	1

Lab Sample ID: LCS 280-560194/13
Matrix: Water
Analysis Batch: 560194

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			5.00	4.98		mg/L		100	90 - 110		

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 280-560194/14
Matrix: Water
Analysis Batch: 560194

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			5.00	4.68		mg/L		94	90 - 110	6	10

Lab Sample ID: MRL 280-560194/12
Matrix: Water
Analysis Batch: 560194

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			0.500	0.438	J	mg/L		88	50 - 150		

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-558579/1
Matrix: Water
Analysis Batch: 558579

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			11/23/21 19:36	1

Lab Sample ID: LCS 280-558579/2
Matrix: Water
Analysis Batch: 558579

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	98.0		mg/L		98	79 - 114		

Lab Sample ID: MB 280-558704/1
Matrix: Water
Analysis Batch: 558704

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			11/24/21 16:20	1

Lab Sample ID: LCS 280-558704/2
Matrix: Water
Analysis Batch: 558704

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	97.2		mg/L		97	79 - 114		

Lab Sample ID: MB 280-558965/1
Matrix: Water
Analysis Batch: 558965

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			11/29/21 10:35	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-558965/2
Matrix: Water
Analysis Batch: 558965

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	84.4		mg/L		84	79 - 114		

Lab Sample ID: LCSD 280-558965/3
Matrix: Water
Analysis Batch: 558965

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 Suspended Solids			100	100		mg/L		100	79 - 114	17	20

Method: SM2540 C - Total Dissolved Solids

Lab Sample ID: MB 280-558625/1
Matrix: Water
Analysis Batch: 558625

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			11/24/21 08:11	1

Lab Sample ID: LCS 280-558625/2
Matrix: Water
Analysis Batch: 558625

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 (TDS)			501	572		mg/L		114	88 - 114		

Lab Sample ID: LCSD 280-558625/3
Matrix: Water
Analysis Batch: 558625

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 (TDS)			501	517		mg/L		103	88 - 114	10	20

Lab Sample ID: MB 280-559503/1
Matrix: Water
Analysis Batch: 559503

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			12/03/21 08:53	1

Lab Sample ID: LCS 280-559503/2
Matrix: Water
Analysis Batch: 559503

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 (TDS)			503	509		mg/L		101	88 - 114		

QC Association Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Metals

Prep Batch: 514527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total Recoverable	Water	3005A	
280-155950-2	MW-2B	Total Recoverable	Water	3005A	
280-155950-3	MW-3	Total Recoverable	Water	3005A	
280-155950-4	MW-4B	Total Recoverable	Water	3005A	
280-155950-5	MW-5	Total Recoverable	Water	3005A	
280-155950-6	MW-6	Total Recoverable	Water	3005A	
280-155950-7	MW-6D	Total Recoverable	Water	3005A	
280-155950-8	MW-6EB	Total Recoverable	Water	3005A	
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-514527/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-514527/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 515043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total Recoverable	Water	6020A	514527
280-155950-2	MW-2B	Total Recoverable	Water	6020A	514527
280-155950-3	MW-3	Total Recoverable	Water	6020A	514527
280-155950-4	MW-4B	Total Recoverable	Water	6020A	514527
280-155950-5	MW-5	Total Recoverable	Water	6020A	514527
280-155950-6	MW-6	Total Recoverable	Water	6020A	514527
280-155950-7	MW-6D	Total Recoverable	Water	6020A	514527
280-155950-8	MW-6EB	Total Recoverable	Water	6020A	514527
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	6020A	514527
LCS 240-514527/3-A	Lab Control Sample	Total Recoverable	Water	6020A	514527

Analysis Batch: 515113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total Recoverable	Water	6010C	514527
280-155950-2	MW-2B	Total Recoverable	Water	6010C	514527
280-155950-3	MW-3	Total Recoverable	Water	6010C	514527
280-155950-4	MW-4B	Total Recoverable	Water	6010C	514527
280-155950-5	MW-5	Total Recoverable	Water	6010C	514527
280-155950-6	MW-6	Total Recoverable	Water	6010C	514527
280-155950-7	MW-6D	Total Recoverable	Water	6010C	514527
280-155950-8	MW-6EB	Total Recoverable	Water	6010C	514527
MB 240-514527/1-A	Method Blank	Total Recoverable	Water	6010C	514527
LCS 240-514527/2-A	Lab Control Sample	Total Recoverable	Water	6010C	514527

General Chemistry

Analysis Batch: 558579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-3	MW-3	Total/NA	Water	SM 2540D	
MB 280-558579/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-558579/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 558625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total/NA	Water	SM2540 C	
280-155950-2	MW-2B	Total/NA	Water	SM2540 C	
280-155950-4	MW-4B	Total/NA	Water	SM2540 C	

General Chemistry (Continued)

Analysis Batch: 558625 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-5	MW-5	Total/NA	Water	SM2540 C	
280-155950-6	MW-6	Total/NA	Water	SM2540 C	
280-155950-7	MW-6D	Total/NA	Water	SM2540 C	
280-155950-8	MW-6EB	Total/NA	Water	SM2540 C	
MB 280-558625/1	Method Blank	Total/NA	Water	SM2540 C	
LCS 280-558625/2	Lab Control Sample	Total/NA	Water	SM2540 C	
LCSD 280-558625/3	Lab Control Sample Dup	Total/NA	Water	SM2540 C	

Analysis Batch: 558704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-4	MW-4B	Total/NA	Water	SM 2540D	
280-155950-5	MW-5	Total/NA	Water	SM 2540D	
280-155950-8	MW-6EB	Total/NA	Water	SM 2540D	
MB 280-558704/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-558704/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 558965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total/NA	Water	SM 2540D	
280-155950-2	MW-2B	Total/NA	Water	SM 2540D	
280-155950-6	MW-6	Total/NA	Water	SM 2540D	
280-155950-7	MW-6D	Total/NA	Water	SM 2540D	
MB 280-558965/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-558965/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-558965/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 559384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total/NA	Water	9056A	
280-155950-2	MW-2B	Total/NA	Water	9056A	
280-155950-3	MW-3	Total/NA	Water	9056A	
280-155950-4	MW-4B	Total/NA	Water	9056A	
280-155950-5	MW-5	Total/NA	Water	9056A	
280-155950-6	MW-6	Total/NA	Water	9056A	
280-155950-7	MW-6D	Total/NA	Water	9056A	
280-155950-8	MW-6EB	Total/NA	Water	9056A	
MB 280-559384/141	Method Blank	Total/NA	Water	9056A	
MB 280-559384/6	Method Blank	Total/NA	Water	9056A	
LCS 280-559384/137	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-559384/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-559384/140	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-559384/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-559384/3	Lab Control Sample	Total/NA	Water	9056A	
280-155950-8 MS	MW-6EB	Total/NA	Water	9056A	
280-155950-8 MSD	MW-6EB	Total/NA	Water	9056A	
280-155950-8 DU	MW-6EB	Total/NA	Water	9056A	

Analysis Batch: 559503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-3	MW-3	Total/NA	Water	SM2540 C	
MB 280-559503/1	Method Blank	Total/NA	Water	SM2540 C	

General Chemistry (Continued)

Analysis Batch: 559503 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-559503/2	Lab Control Sample	Total/NA	Water	SM2540 C	

Analysis Batch: 559562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total/NA	Water	9040B	
280-155950-2	MW-2B	Total/NA	Water	9040B	
280-155950-3	MW-3	Total/NA	Water	9040B	
280-155950-4	MW-4B	Total/NA	Water	9040B	
280-155950-5	MW-5	Total/NA	Water	9040B	
280-155950-6	MW-6	Total/NA	Water	9040B	
280-155950-7	MW-6D	Total/NA	Water	9040B	
LCS 280-559562/28	Lab Control Sample	Total/NA	Water	9040B	
LCSD 280-559562/5	Lab Control Sample Dup	Total/NA	Water	9040B	

Analysis Batch: 559796

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-8	MW-6EB	Total/NA	Water	9040B	
LCS 280-559796/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 560194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-155950-1	MW-1	Total/NA	Water	9056A	
280-155950-2	MW-2B	Total/NA	Water	9056A	
280-155950-3	MW-3	Total/NA	Water	9056A	
280-155950-4	MW-4B	Total/NA	Water	9056A	
280-155950-5	MW-5	Total/NA	Water	9056A	
280-155950-6	MW-6	Total/NA	Water	9056A	
280-155950-7	MW-6D	Total/NA	Water	9056A	
MB 280-560194/15	Method Blank	Total/NA	Water	9056A	
LCS 280-560194/13	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-560194/14	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-560194/12	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-1
Lab Sample ID: 280-155950-1
Date Collected: 11/18/21 13:10
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		2			515113	11/30/21 16:10	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:19	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:35	ECC	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	559384	12/02/21 19:52	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560194	12/10/21 12:40	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558965	11/29/21 11:36	ABW	TAL DEN
Total/NA	Analysis	SM2540 C		1	1 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Client Sample ID: MW-2B
Lab Sample ID: 280-155950-2
Date Collected: 11/18/21 14:40
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			515113	11/30/21 16:15	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:26	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:39	ECC	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	559384	12/02/21 20:20	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560194	12/10/21 13:10	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558965	11/29/21 11:36	ABW	TAL DEN
Total/NA	Analysis	SM2540 C		1	1 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Client Sample ID: MW-3
Lab Sample ID: 280-155950-3
Date Collected: 11/16/21 11:20
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			515113	11/30/21 16:19	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:29	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:31	ECC	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	559384	12/02/21 21:16	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560194	12/10/21 13:39	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558579	11/23/21 19:36	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	1 mL	100 mL	559503	12/03/21 09:53	ABW	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-4B
Lab Sample ID: 280-155950-4
Date Collected: 11/18/21 09:35
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 16:24	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:31	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:59	ECC	TAL DEN
Total/NA	Analysis	9056A		20	10 mL	10 mL	559384	12/02/21 21:58	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560194	12/10/21 15:24	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	25 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Client Sample ID: MW-5
Lab Sample ID: 280-155950-5
Date Collected: 11/18/21 15:10
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			515113	11/30/21 16:28	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:34	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:46	ECC	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	559384	12/03/21 01:14	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	560194	12/10/21 16:09	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	1 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Client Sample ID: MW-6
Lab Sample ID: 280-155950-6
Date Collected: 11/18/21 11:10
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 16:33	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:37	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 14:03	ECC	TAL DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	559384	12/03/21 00:32	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560194	12/10/21 16:24	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558965	11/29/21 11:36	ABW	TAL DEN
Total/NA	Analysis	SM2540 C		1	25 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Lab Chronicle

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: MW-6D
Lab Sample ID: 280-155950-7
Date Collected: 11/18/21 11:15
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 16:46	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:39	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559562	12/03/21 13:43	ECC	TAL DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	559384	12/03/21 01:00	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	560194	12/10/21 16:53	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558965	11/29/21 11:36	ABW	TAL DEN
Total/NA	Analysis	SM2540 C		1	25 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Client Sample ID: MW-6EB
Lab Sample ID: 280-155950-8
Date Collected: 11/18/21 11:30
Matrix: Water
Date Received: 11/19/21 14:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			515113	11/30/21 16:51	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	514527	11/24/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			515043	11/29/21 16:42	AJC	TAL CAN
Total/NA	Analysis	9040B		1			559796	12/06/21 14:04	SPG	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	559384	12/02/21 22:26	SPG	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	558704	11/24/21 16:20	LRB	TAL DEN
Total/NA	Analysis	SM2540 C		1	100 mL	100 mL	558625	11/24/21 09:11	ABW	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-155950-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23

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
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	06-30-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

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Client Information	Sampler: Emily Munoz	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: (720) 273 3436	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page ~~2 of 2~~ 1 of 1
Company: HDR Inc	PWSID:	Analysis Requested		Job #:
Address: 1670 Broadway Suite 3400	Due Date Requested:			Preservation Codes:
City: Denver	TAT Requested (days):			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 Z - other (specify) Other:
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No			
Phone: 734-263-7138(Tel)	PO #: DEN-021			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site:COLORADO APP III + Dissolved Metals + TSS	SSOW#:			

Sample Identification	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)	6010C - 6020A Dissolved Metals - Canton	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metals - Canton	2540D - TSS/2540C TDS	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	D	N		
MW-1B	11/18/21	1310	G	Water	N	N		1	1	1	3	
MW-2B	11/18/21	1440	G	Water	N	N		1	1	1	3	
MW-3	11/16/21	1120	G	W	N	N		1	1	1	3	
MW-4B	11/18/21	0935	G	W	N	N		1	1	1	3	
MW-5	11/18/21	1510	G	W	N	N		1	1	1	3	
MW-6	11/18/21	1110	G	W	N	N		1	1	1	3	
MW-6D	11/18/21	1115	G	W	N	N		1	1	1	3	
MW-6EB	11/18/21	1130	G	W	N	N		1	1	1	3	

280-155950 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	11/19/21 1450	HDL		11/19/21 1450	EATDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 2.6, 2.1 IR11+1.0

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-594954 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-155950-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 12/12/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

549

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)	6020A/3005A (MOD) Calcium	6010C/3005A (MOD) Boron	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-1 (280-155950-1)	11/18/21	13:10 Mountain		Water			X	X	1	Use Collision Cell
MW-2B (280-155950-2)	11/18/21	14:40 Mountain		Water			X	X	1	Use Collision Cell
MW-3 (280-155950-3)	11/16/21	11:20 Mountain		Water			X	X	1	Use Collision Cell
MW-4B (280-155950-4)	11/18/21	09:35 Mountain		Water			X	X	1	Use Collision Cell
MW-5 (280-155950-5)	11/18/21	15:10 Mountain		Water			X	X	1	Use Collision Cell
MW-6 (280-155950-6)	11/18/21	11:10 Mountain		Water			X	X	1	Use Collision Cell
MW-6D (280-155950-7)	11/18/21	11:15 Mountain		Water			X	X	1	Use Collision Cell
MW-6EB (280-155950-8)	11/18/21	11:30 Mountain		Water			X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time: 11/22/21 1620	Company:	Received by: Mandolyn Black	Date/Time: 11-23-21 16:15	Company: EA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 06/08/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client EPA, Denver Site Name _____ Cooler unpacked by: Mandahy Block

Cooler Received on 11-23-21 Opened on 11-23-21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
   IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C
   IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp._____°C Corrected Cooler Temp._____°C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity_____	Yes	No	
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No	NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No	
-Were tamper/custody seals intact and uncompromised?	Yes	No	NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No	
4. Did custody papers accompany the sample(s)?	Yes	No	
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No	
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No	
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	Yes	No	
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?			
10. Were correct bottle(s) used for the test(s) indicated?	Yes	No	
11. Sufficient quantity received to perform indicated analyses?	Yes	No	
12. Are these work share samples and all listed on the COC?	Yes	No	
If yes, Questions 13-17 have been checked at the originating laboratory.			
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No	NA pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	No	
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this.	Yes	No	NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	No	
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No	

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login # : _____

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form				
Cooler Description (Circle)	IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)
TA Client Box Other	IR-14 IR-15	3.6	3.7	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15	1.4	1.5	Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-14 IR-15	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-155950-1

Login Number: 155950
List Number: 1
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver

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.	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	

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ANALYTICAL REPORT

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-156371-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
12/27/2021 7:02:47 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-156371-1

Laboratory: Eurofins TestAmerica, Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-156371-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/03/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt were 1.2°C, 2.0°C, 2.5°C and 2.5°C

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): W-5 (280-156371-3). The container label for one 1L plastic nitric acid preserved container lists no collection date or time, while the COC lists a collection date and time of 12/01/2021 1020. The sample was logged per the COC.

TOTAL RECOVERABLE METALS- METHOD 6010C/6020A

Several samples required dilution prior to analysis for Method 6020A. The reporting limits have been adjusted accordingly.

MS/MSD analyses were performed on sample W-2A. The MS/MSD for Boron method 6010C exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Calcium MS/MSD performed on a laboratory generated sample could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

TOTAL MERCURY- METHOD 7470A

MS/MSD analyses were performed on sample W-2A. The MS/MSD for Mercury method 7470A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

GENERAL CHEMISTRY- VARIOUS

Several samples required dilution prior to analysis for various analyses. The reporting limits have been adjusted accordingly.

Job ID: 280-156371-1 (Continued)

Laboratory: Eurofins TestAmerica, Denver (Continued)

The pH sample duplicate analysis data associated with QC batch 280-560808 exhibited RPD data outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The continuing calibration verification (CCV) associated with batch 280-561643 recovered above the upper control limit for fluoride. The samples associated with this CCV were non-detects for the affected analytes; therefore, corrective action is deemed unnecessary.

Method 9056A_28D: The following sample has chromatographic interferences that could adversely impact the identification and quantitation of target analytes: W-10B (280-156371-10). These interferences could cause false positive and/or false negative results.

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

Detection Summary

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2A
Lab Sample ID: 280-156371-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.3	F1	0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.012		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	410		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0044		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.012		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Chromium	0.0027		0.0025	0.0025	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0036	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00058	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	2.5		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0049		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.6		0.080	0.017	mg/L	10		6020A	Total Recoverable
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	910		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	7.9		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	50000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	68000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.8		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2AD
Lab Sample ID: 280-156371-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.014		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.011		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	170		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0041		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.014		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0024	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	2.3		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0043		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.4		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-2AD (Continued)
Lab Sample ID: 280-156371-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	830		300	100	mg/L	100		9056A	Total/NA
Fluoride	7.8		2.5	0.83	mg/L	5		9056A	Total/NA
Sulfate	48000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	67000		1000	470	mg/L	1		SM 2540C	Total/NA

Client Sample ID: W-5
Lab Sample ID: 280-156371-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.7		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.0044	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	420		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0039	J	0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.050		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0057	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Lithium	0.80		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	640		300	100	mg/L	100		9056A	Total/NA
Sulfate	24000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	34000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	20		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3
Lab Sample ID: 280-156371-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.5		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.0011	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.042		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	440		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.00020	J	0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.027		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.014		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.10		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	19.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	71		3.0	1.0	mg/L	1		9056A	Total/NA
Fluoride	0.57		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	1700		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	3300		40	19	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-3 (Continued) — Lab Sample ID: 280-156371-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Solids	4.8		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5B — Lab Sample ID: 280-156371-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.10	0.057	mg/L	1		6010C	Total Recoverable
Barium	0.018		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	460		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00086	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0032		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0016	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Thallium	0.00076	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.24		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	100		3.0	1.0	mg/L	1		9056A	Total/NA
Sulfate	3600		250	52	mg/L	50		9056A	Total/NA
Total Dissolved Solids (TDS)	5300		40	19	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-5BEB — Lab Sample ID: 280-156371-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH adj. to 25 deg C	6.8	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Total Dissolved Solids (TDS)	5.0	J H	10	4.7	mg/L	1		SM 2540C	Total/NA

Client Sample ID: W-6 — Lab Sample ID: 280-156371-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	7.6		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.0026	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.023		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	380		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cobalt	0.0050		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.26		0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0040	J	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Lithium	0.27		0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	20.2	HF	1.0	1.0	Degrees C	1		9040B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-6 (Continued) — Lab Sample ID: 280-156371-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	250		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	4.7		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	6400		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	9600		100	47	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	1.6	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-7 — Lab Sample ID: 280-156371-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.0		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.0061		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.014		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	170		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.0055		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.020		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0057	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00067	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	1.6		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0048		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.5		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.0	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	710		60	20	mg/L	20		9056A	Total/NA
Sulfate	52000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	66000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	6.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-9 — Lab Sample ID: 280-156371-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.8		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.00089	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.022		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	410		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00034	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0015	J	0.0020	0.00038	mg/L	2		6020A	Total Recoverable
Molybdenum	0.0034	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.0031	J	0.010	0.0018	mg/L	2		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-9 (Continued) — Lab Sample ID: 280-156371-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.00022	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.87		0.016	0.0033	mg/L	2		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	18.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	460		30	10	mg/L	10		9056A	Total/NA
Sulfate	12000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	17000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-10B — Lab Sample ID: 280-156371-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.2		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.028		0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.021		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	200		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00031	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0025	J	0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Chromium	0.014		0.0025	0.0025	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0040	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Lead	0.00074	J	0.0010	0.00045	mg/L	1		6020A	Total Recoverable
Selenium	5.2		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0062		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	3.9		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1100		60	20	mg/L	20		9056A	Total/NA
Sulfate	60000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	81000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	100		4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-11 — Lab Sample ID: 280-156371-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.81		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.015	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.012		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	410		5.0	2.9	mg/L	5		6020A	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: W-11 (Continued) — Lab Sample ID: 280-156371-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0012		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.017		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Selenium	2.4		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0040		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	2.7		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.6	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	310		300	100	mg/L	100		9056A	Total/NA
Sulfate	14000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	23000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.0	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-12 — Lab Sample ID: 280-156371-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.91		0.10	0.057	mg/L	1		6010C	Total Recoverable
Antimony	0.00062	J	0.0020	0.00057	mg/L	1		6020A	Total Recoverable
Barium	0.014		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	56		2.0	1.2	mg/L	2		6020A	Total Recoverable
Cadmium	0.00054	J	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.013		0.0020	0.00038	mg/L	2		6020A	Total Recoverable
Selenium	0.017		0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0038		0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	0.72		0.016	0.0033	mg/L	2		6020A	Total Recoverable
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.7	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1000		30	10	mg/L	10		9056A	Total/NA
Sulfate	17000		500	100	mg/L	100		9056A	Total/NA
Total Dissolved Solids (TDS)	27000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	4.8		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN

Protocol References:

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:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-156371-1	W-2A	Ground Water	11/30/21 11:00	12/03/21 09:58
280-156371-2	W-2AD	Water	11/30/21 11:00	12/03/21 09:58
280-156371-3	W-5	Water	12/01/21 10:20	12/03/21 09:58
280-156371-4	W-3	Water	12/01/21 11:15	12/03/21 09:58
280-156371-5	W-5B	Water	12/01/21 14:40	12/03/21 09:58
280-156371-6	W-5BEB	Water	12/01/21 15:45	12/03/21 09:58
280-156371-7	W-6	Water	11/30/21 17:05	12/03/21 09:58
280-156371-8	W-7	Water	12/01/21 17:40	12/03/21 09:58
280-156371-9	W-9	Water	11/30/21 15:15	12/03/21 09:58
280-156371-10	W-10B	Water	12/02/21 08:20	12/03/21 09:58
280-156371-11	W-11	Water	12/02/21 12:40	12/03/21 09:58
280-156371-12	W-12	Water	12/02/21 09:40	12/03/21 09:58

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.3	F1	0.10	0.057	mg/L		12/10/21 14:00	12/13/21 16:10	1

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.2		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 16:59	1

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.7		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:04	1

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.5		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:17	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:21	1

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:26	1

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	7.6		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:30	1

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.0		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:35	1

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.8		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:39	1

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**2.2**		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:44	1

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.81**		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:49	1

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.91**		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 17:53	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 13:57	1
Arsenic	**0.014**		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 13:57	1
Barium	**0.012**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 13:57	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 13:57	1
Calcium	**410**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 13:57	1
Cadmium	**0.0044**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 13:57	1
Cobalt	**0.012**		0.0010	0.00019	mg/L		12/10/21 14:00	12/13/21 13:57	1
Chromium	**0.0027**		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 13:57	1
Molybdenum	**0.0036**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 13:57	1
Lead	**0.00058**	**J**	0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 13:57	1
Selenium	**2.5**		0.0050	0.00089	mg/L		12/10/21 14:00	12/13/21 13:57	1
Thallium	**0.0049**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 13:57	1
Lithium	**3.6**		0.080	0.017	mg/L		12/10/21 14:00	12/15/21 13:39	10

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:34	1
Arsenic	**0.014**		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:34	1
Barium	**0.011**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:34	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:34	1
Calcium	**170**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:34	1
Cadmium	**0.0041**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:34	1
Cobalt	**0.014**		0.0050	0.00095	mg/L		12/10/21 14:00	12/14/21 18:29	5
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:34	1
Molybdenum	**0.0024**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:34	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:34	1
Selenium	**2.3**		0.025	0.0045	mg/L		12/10/21 14:00	12/14/21 18:29	5
Thallium	**0.0043**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:34	1
Lithium	**3.4**		0.040	0.0083	mg/L		12/10/21 14:00	12/15/21 13:42	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:37	1
Arsenic	**0.0044**	**J**	0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:37	1
Barium	**0.022**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:37	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:37	1
Calcium	**420**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:37	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:37	1
Cobalt	**0.0039**	**J**	0.0050	0.00095	mg/L		12/10/21 14:00	12/14/21 18:32	5
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:37	1
Molybdenum	**0.050**		0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:37	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:37	1
Selenium	**0.0057**	**J**	0.025	0.0045	mg/L		12/10/21 14:00	12/14/21 18:32	5
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:37	1
Lithium	**0.80**		0.040	0.0083	mg/L		12/10/21 14:00	12/15/21 13:45	5

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:39	1
Arsenic	**0.0011**	**J**	0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:39	1
Barium	**0.042**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:39	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:39	1
Calcium	**440**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:39	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:39	1
Cobalt	**0.00020**	**J**	0.0010	0.00019	mg/L		12/10/21 14:00	12/14/21 18:34	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:39	1
Molybdenum	**0.027**		0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:39	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:39	1
Selenium	**0.014**		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:34	1
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:39	1
Lithium	**0.10**		0.0080	0.0017	mg/L		12/10/21 14:00	12/15/21 13:47	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:42	1
Arsenic	ND		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:42	1
Barium	**0.018**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:42	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:42	1
Calcium	**460**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:42	1
Cadmium	**0.00086**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:42	1
Cobalt	**0.0032**		0.0010	0.00019	mg/L		12/10/21 14:00	12/14/21 18:37	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:42	1
Molybdenum	**0.0016**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:42	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:42	1
Selenium	ND		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:37	1
Thallium	**0.00076**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:42	1
Lithium	**0.24**		0.0080	0.0017	mg/L		12/10/21 14:00	12/15/21 13:50	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:44	1
Arsenic	ND		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:44	1
Barium	ND		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:44	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:44	1
Calcium	ND		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:44	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:44	1
Cobalt	ND		0.0010	0.00019	mg/L		12/10/21 14:00	12/14/21 18:39	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:44	1
Molybdenum	ND		0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:44	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:44	1
Selenium	ND		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:39	1
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:44	1
Lithium	ND		0.0080	0.0017	mg/L		12/10/21 14:00	12/15/21 13:52	1

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:47	1
Arsenic	**0.0026**	**J**	0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:47	1
Barium	**0.023**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:47	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:47	1
Calcium	**380**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:47	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:47	1
Cobalt	**0.0050**		0.0010	0.00019	mg/L		12/10/21 14:00	12/14/21 18:42	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:47	1
Molybdenum	**0.26**		0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:47	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:47	1
Selenium	**0.0040**	**J**	0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:42	1
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:47	1
Lithium	**0.27**		0.0080	0.0017	mg/L		12/10/21 14:00	12/15/21 13:55	1

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:49	1
Arsenic	**0.0061**		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:49	1
Barium	**0.014**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:49	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:49	1
Calcium	**170**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:49	1
Cadmium	**0.0055**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:49	1
Cobalt	**0.020**		0.0050	0.00095	mg/L		12/10/21 14:00	12/15/21 14:02	5
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:49	1
Molybdenum	**0.0057**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:49	1
Lead	**0.00067**	**J**	0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:49	1
Selenium	**1.6**		0.025	0.0045	mg/L		12/10/21 14:00	12/14/21 18:49	5
Thallium	**0.0048**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:49	1
Lithium	**3.5**		0.040	0.0083	mg/L		12/10/21 14:00	12/15/21 14:02	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:52	1
Arsenic	**0.00089**	**J**	0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:52	1
Barium	**0.022**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:52	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:52	1
Calcium	**410**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:52	1
Cadmium	**0.00034**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:52	1
Cobalt	**0.0015**	**J**	0.0020	0.00038	mg/L		12/10/21 14:00	12/15/21 14:05	2
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:52	1
Molybdenum	**0.0034**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:52	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:52	1
Selenium	**0.0031**	**J**	0.010	0.0018	mg/L		12/10/21 14:00	12/14/21 18:52	2
Thallium	**0.00022**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:52	1
Lithium	**0.87**		0.016	0.0033	mg/L		12/10/21 14:00	12/15/21 14:05	2

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 14:55	1
Arsenic	**0.028**		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 14:55	1
Barium	**0.021**		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 14:55	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 14:55	1
Calcium	**200**		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 14:55	1
Cadmium	**0.00031**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:55	1
Cobalt	**0.0025**	**J**	0.0050	0.00095	mg/L		12/10/21 14:00	12/15/21 14:07	5
Chromium	**0.014**		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 14:55	1
Molybdenum	**0.0040**	**J**	0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 14:55	1
Lead	**0.00074**	**J**	0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 14:55	1
Selenium	**5.2**		0.025	0.0045	mg/L		12/10/21 14:00	12/14/21 18:54	5
Thallium	**0.0062**		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 14:55	1
Lithium	**3.9**		0.040	0.0083	mg/L		12/10/21 14:00	12/15/21 14:07	5

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/14/21 18:57	1
Arsenic	**0.015**	**J**	0.025	0.0038	mg/L		12/10/21 14:00	12/15/21 14:10	5
Barium	**0.012**		0.0050	0.0022	mg/L		12/10/21 14:00	12/14/21 18:57	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/14/21 18:57	1
Calcium	**410**		5.0	2.9	mg/L		12/10/21 14:00	12/15/21 14:10	5
Cadmium	**0.0012**		0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 18:57	1
Cobalt	**0.017**		0.0050	0.00095	mg/L		12/10/21 14:00	12/15/21 14:10	5
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/14/21 18:57	1
Molybdenum	ND		0.050	0.0054	mg/L		12/10/21 14:00	12/15/21 14:10	5
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/14/21 18:57	1
Selenium	**2.4**		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:57	1
Thallium	**0.0040**		0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 18:57	1
Lithium	**2.7**		0.040	0.0083	mg/L		12/10/21 14:00	12/15/21 14:10	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00062**	**J**	0.0020	0.00057	mg/L		12/10/21 14:00	12/14/21 19:02	1
Arsenic	ND		0.010	0.0015	mg/L		12/10/21 14:00	12/15/21 14:13	2
Barium	**0.014**		0.0050	0.0022	mg/L		12/10/21 14:00	12/14/21 19:02	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/14/21 19:02	1
Calcium	**56**		2.0	1.2	mg/L		12/10/21 14:00	12/15/21 14:13	2
Cadmium	**0.00054**	**J**	0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 19:02	1
Cobalt	**0.013**		0.0020	0.00038	mg/L		12/10/21 14:00	12/15/21 14:13	2
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/14/21 19:02	1
Molybdenum	ND		0.020	0.0022	mg/L		12/10/21 14:00	12/15/21 14:13	2
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/14/21 19:02	1
Selenium	**0.017**		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 19:02	1
Thallium	**0.0038**		0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 19:02	1
Lithium	**0.72**		0.016	0.0033	mg/L		12/10/21 14:00	12/15/21 14:13	2

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	F1	0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 14:46	1

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:07	1

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:09	1

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:11	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:13	1

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:15	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:17	1

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:19	1

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:21	1

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:28	1

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:30	1

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 15:32	1

General Chemistry

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU			12/07/21 17:19	1
Temperature	19.3	HF	1.0	1.0	Degrees C			12/07/21 17:19	1
Chloride	910		15	5.1	mg/L			12/24/21 01:23	5
Fluoride	7.9		2.5	0.83	mg/L			12/27/21 14:38	5
Sulfate	50000		2500	520	mg/L			12/24/21 01:56	500
Total Dissolved Solids (TDS)	68000		1000	470	mg/L			12/06/21 08:32	1
Total Suspended Solids	4.8		4.0	1.1	mg/L			12/06/21 08:34	1

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.9	HF	0.1	0.1	SU			12/07/21 17:23	1

General Chemistry (Continued)

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	18.9	HF	1.0	1.0	Degrees C			12/07/21 17:23	1
Chloride	830		300	100	mg/L			12/22/21 17:36	100
Fluoride	7.8		2.5	0.83	mg/L			12/27/21 14:55	5
Sulfate	48000		2500	520	mg/L			12/24/21 01:07	500
Total Dissolved Solids (TDS)	67000		1000	470	mg/L			12/06/21 08:32	1
Total Suspended Solids	ND		4.0	1.1	mg/L			12/06/21 08:34	1

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			12/07/21 17:16	1
Temperature	19.6	HF	1.0	1.0	Degrees C			12/07/21 17:16	1
Chloride	640		300	100	mg/L			12/22/21 18:06	100
Fluoride	ND	^+	0.50	0.17	mg/L			12/24/21 00:18	1
Sulfate	24000		1000	210	mg/L			12/24/21 00:34	200
Total Dissolved Solids (TDS)	34000		1000	470	mg/L			12/08/21 10:11	1
Total Suspended Solids	20		4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.7	HF	0.1	0.1	SU			12/07/21 17:08	1
Temperature	19.6	HF	1.0	1.0	Degrees C			12/07/21 17:08	1
Chloride	71		3.0	1.0	mg/L			12/22/21 14:51	1
Fluoride	0.57		0.50	0.17	mg/L			12/27/21 13:33	1
Sulfate	1700		250	52	mg/L			12/23/21 21:17	50
Total Dissolved Solids (TDS)	3300		40	19	mg/L			12/08/21 10:11	1
Total Suspended Solids	4.8		4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.4	HF	0.1	0.1	SU			12/09/21 14:01	1
Temperature	20.9	HF	1.0	1.0	Degrees C			12/09/21 14:01	1
Chloride	100		3.0	1.0	mg/L			12/22/21 16:51	1
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 18:33	1
Sulfate	3600		250	52	mg/L			12/22/21 17:06	50
Total Dissolved Solids (TDS)	5300		40	19	mg/L			12/08/21 10:11	1
Total Suspended Solids	1.6	J	4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	6.8	HF	0.1	0.1	SU			12/15/21 12:09	1
Temperature	21.2	HF	1.0	1.0	Degrees C			12/15/21 12:09	1
Chloride	ND		3.0	1.0	mg/L			12/22/21 14:36	1

General Chemistry (Continued)

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 18:49	1
Sulfate	ND		5.0	1.0	mg/L			12/22/21 14:36	1
Total Dissolved Solids (TDS)	**5.0**	**J H**	10	4.7	mg/L			12/17/21 10:04	1
Total Suspended Solids	ND		4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.5**	**HF**	0.1	0.1	SU			12/07/21 17:12	1
Temperature	**20.2**	**HF**	1.0	1.0	Degrees C			12/07/21 17:12	1
Chloride	**250**		15	5.1	mg/L			12/22/21 19:36	5
Fluoride	**4.7**		0.50	0.17	mg/L			12/27/21 15:11	1
Sulfate	**6400**		500	100	mg/L			12/22/21 19:51	100
Total Dissolved Solids (TDS)	**9600**		100	47	mg/L			12/06/21 08:32	1
Total Suspended Solids	**1.6**	**J**	4.0	1.1	mg/L			12/06/21 08:34	1

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.0**	**HF**	0.1	0.1	SU			12/09/21 14:11	1
Temperature	**21.3**	**HF**	1.0	1.0	Degrees C			12/09/21 14:11	1
Chloride	**710**		60	20	mg/L			12/23/21 20:11	20
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 19:22	1
Sulfate	**52000**		2500	520	mg/L			12/22/21 21:51	500
Total Dissolved Solids (TDS)	**66000**		1000	470	mg/L			12/08/21 10:11	1
Total Suspended Solids	**6.0**		4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.3**	**HF**	0.1	0.1	SU			12/07/21 17:04	1
Temperature	**18.5**	**HF**	1.0	1.0	Degrees C			12/07/21 17:04	1
Chloride	**460**		30	10	mg/L			12/22/21 16:36	10
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 21:33	1
Sulfate	**12000**		500	100	mg/L			12/23/21 21:50	100
Total Dissolved Solids (TDS)	**17000**		1000	470	mg/L			12/06/21 08:32	1
Total Suspended Solids	**4.0**		4.0	1.1	mg/L			12/06/21 08:34	1

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	**7.5**	**HF**	0.1	0.1	SU			12/09/21 14:15	1
Temperature	**21.9**	**HF**	1.0	1.0	Degrees C			12/09/21 14:15	1
Chloride	**1100**		60	20	mg/L			12/23/21 20:44	20
Fluoride	ND	^+	2.5	0.83	mg/L			12/23/21 20:28	5
Sulfate	**60000**		2500	520	mg/L			12/22/21 22:51	500

General Chemistry (Continued)

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	81000		1000	470	mg/L			12/08/21 10:11	1
Total Suspended Solids	100		4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			12/09/21 14:19	1
Temperature	22.6	HF	1.0	1.0	Degrees C			12/09/21 14:19	1
Chloride	310		300	100	mg/L			12/22/21 18:36	100
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 18:16	1
Sulfate	14000		500	100	mg/L			12/22/21 18:36	100
Total Dissolved Solids (TDS)	23000		1000	470	mg/L			12/08/21 10:11	1
Total Suspended Solids	2.0	J	4.0	1.1	mg/L			12/07/21 10:28	1

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			12/09/21 14:23	1
Temperature	22.7	HF	1.0	1.0	Degrees C			12/09/21 14:23	1
Chloride	1000		30	10	mg/L			12/22/21 15:36	10
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 23:45	1
Sulfate	17000		500	100	mg/L			12/24/21 00:01	100
Total Dissolved Solids (TDS)	27000		1000	470	mg/L			12/08/21 10:11	1
Total Suspended Solids	4.8		4.0	1.1	mg/L			12/07/21 10:28	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-516380/1-A
Matrix: Water
Analysis Batch: 516628

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		12/10/21 14:00	12/13/21 16:01	1

Lab Sample ID: LCS 240-516380/2-A
Matrix: Water
Analysis Batch: 516628

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.977		mg/L		98	80 - 120

Lab Sample ID: 280-156371-1 MS
Matrix: Ground Water
Analysis Batch: 516628

Client Sample ID: W-2A
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.3	F1	1.00	3.10		mg/L		79	75 - 125

Lab Sample ID: 280-156371-1 MSD
Matrix: Ground Water
Analysis Batch: 516628

Client Sample ID: W-2A
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.3	F1	1.00	2.99	F1	mg/L		69	75 - 125	4	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-516380/1-A
Matrix: Water
Analysis Batch: 516676

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/13/21 13:52	1
Arsenic	ND		0.0050	0.00075	mg/L		12/10/21 14:00	12/13/21 13:52	1
Barium	ND		0.0050	0.0022	mg/L		12/10/21 14:00	12/13/21 13:52	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/13/21 13:52	1
Calcium	ND		1.0	0.58	mg/L		12/10/21 14:00	12/13/21 13:52	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 13:52	1
Cobalt	ND		0.0010	0.00019	mg/L		12/10/21 14:00	12/13/21 13:52	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/13/21 13:52	1
Molybdenum	ND		0.010	0.0011	mg/L		12/10/21 14:00	12/13/21 13:52	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/13/21 13:52	1
Selenium	ND		0.0050	0.00089	mg/L		12/10/21 14:00	12/13/21 13:52	1
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/13/21 13:52	1

Lab Sample ID: MB 240-516380/1-A
Matrix: Water
Analysis Batch: 516825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00057	mg/L		12/10/21 14:00	12/14/21 18:22	1
Arsenic	ND		0.0050	0.00075	mg/L		12/10/21 14:00	12/14/21 18:22	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-516380/1-A
Matrix: Water
Analysis Batch: 516825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.0050	0.0022	mg/L		12/10/21 14:00	12/14/21 18:22	1
Beryllium	ND		0.0010	0.00062	mg/L		12/10/21 14:00	12/14/21 18:22	1
Calcium	ND		1.0	0.58	mg/L		12/10/21 14:00	12/14/21 18:22	1
Cadmium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 18:22	1
Cobalt	ND		0.0010	0.00019	mg/L		12/10/21 14:00	12/14/21 18:22	1
Chromium	ND		0.0025	0.0025	mg/L		12/10/21 14:00	12/14/21 18:22	1
Molybdenum	ND		0.010	0.0011	mg/L		12/10/21 14:00	12/14/21 18:22	1
Lead	ND		0.0010	0.00045	mg/L		12/10/21 14:00	12/14/21 18:22	1
Selenium	ND		0.0050	0.00089	mg/L		12/10/21 14:00	12/14/21 18:22	1
Thallium	ND		0.0010	0.00020	mg/L		12/10/21 14:00	12/14/21 18:22	1

Lab Sample ID: MB 240-516380/1-A
Matrix: Water
Analysis Batch: 516928

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.0080	0.0017	mg/L		12/10/21 14:00	12/15/21 13:35	1

Lab Sample ID: LCS 240-516380/3-A
Matrix: Water
Analysis Batch: 516676

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.103		mg/L		103	80 - 120
Arsenic	1.00	0.986		mg/L		99	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.447		mg/L		89	80 - 120
Calcium	25.0	25.1		mg/L		101	80 - 120
Cadmium	0.500	0.498		mg/L		100	80 - 120
Cobalt	0.500	0.480		mg/L		96	80 - 120
Chromium	0.500	0.503		mg/L		101	80 - 120
Molybdenum	0.500	0.476		mg/L		95	80 - 120
Lead	0.500	0.511		mg/L		102	80 - 120
Selenium	1.00	0.910		mg/L		91	80 - 120
Thallium	1.00	0.992		mg/L		99	80 - 120

Lab Sample ID: LCS 240-516380/3-A
Matrix: Water
Analysis Batch: 516825

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.103		mg/L		103	80 - 120
Arsenic	1.00	1.03		mg/L		103	80 - 120
Barium	1.00	1.02		mg/L		102	80 - 120
Beryllium	0.500	0.487		mg/L		97	80 - 120
Calcium	25.0	26.7		mg/L		107	80 - 120
Cadmium	0.500	0.497		mg/L		99	80 - 120
Cobalt	0.500	0.519		mg/L		104	80 - 120
Chromium	0.500	0.510		mg/L		102	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-516380/3-A
Matrix: Water
Analysis Batch: 516825

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.500	0.499		mg/L		100	80 - 120
Lead	0.500	0.519		mg/L		104	80 - 120
Selenium	1.00	0.961		mg/L		96	80 - 120
Thallium	1.00	0.998		mg/L		100	80 - 120

Lab Sample ID: LCS 240-516380/3-A
Matrix: Water
Analysis Batch: 516928

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516380

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.500	0.468		mg/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-516382/1-A
Matrix: Water
Analysis Batch: 516656

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516382

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/10/21 14:00	12/13/21 14:42	1

Lab Sample ID: LCS 240-516382/2-A
Matrix: Water
Analysis Batch: 516656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00519		mg/L		104	80 - 120

Lab Sample ID: 280-156371-1 MS
Matrix: Ground Water
Analysis Batch: 516656

Client Sample ID: W-2A
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND	F1	0.00100	0.00121	F1	mg/L		121	80 - 120

Lab Sample ID: 280-156371-1 MSD
Matrix: Ground Water
Analysis Batch: 516656

Client Sample ID: W-2A
Prep Type: Total/NA
Prep Batch: 516382

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	F1	0.00100	0.00112		mg/L		112	80 - 120	7	20

Method: 9040B - pH

Lab Sample ID: LCS 280-559935/4
Matrix: Water
Analysis Batch: 559935

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9040B - pH (Continued)

Lab Sample ID: LCS 280-560189/27
Matrix: Water
Analysis Batch: 560189

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Lab Sample ID: LCS 280-560808/4
Matrix: Water
Analysis Batch: 560808

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-561556/6
Matrix: Water
Analysis Batch: 561556

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/22/21 12:22	1
Sulfate	ND		5.0	1.0	mg/L			12/22/21 12:22	1

Lab Sample ID: LCS 280-561556/4
Matrix: Water
Analysis Batch: 561556

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	100		mg/L		100	90 - 110
Sulfate	100	100		mg/L		100	90 - 110

Lab Sample ID: LCSD 280-561556/5
Matrix: Water
Analysis Batch: 561556

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	100	99.9		mg/L		100	90 - 110	0	10
Sulfate	100	100		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-561556/3
Matrix: Water
Analysis Batch: 561556

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.72		mg/L		94	50 - 150
Sulfate	5.00	4.45	J	mg/L		89	50 - 150

Lab Sample ID: MB 280-561643/6
Matrix: Water
Analysis Batch: 561643

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			12/23/21 11:42	1
Fluoride	ND	^+	0.50	0.17	mg/L			12/23/21 11:42	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 280-561643/6
Matrix: Water
Analysis Batch: 561643

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			12/23/21 11:42	1

Lab Sample ID: LCS 280-561643/4
Matrix: Water
Analysis Batch: 561643

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	101		mg/L		101	90 - 110
Sulfate	100	98.9		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-561643/5
Matrix: Water
Analysis Batch: 561643

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	100	101		mg/L		101	90 - 110	0	10
Sulfate	100	98.9		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-561643/3
Matrix: Water
Analysis Batch: 561643

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.08		mg/L		82	50 - 150
Fluoride	0.500	0.370	J	mg/L		74	50 - 150
Sulfate	5.00	4.23	J	mg/L		85	50 - 150

Lab Sample ID: MB 280-561773/6
Matrix: Water
Analysis Batch: 561773

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.17	mg/L			12/27/21 13:16	1

Lab Sample ID: LCS 280-561773/4
Matrix: Water
Analysis Batch: 561773

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	4.78		mg/L		96	90 - 110

Lab Sample ID: LCSD 280-561773/5
Matrix: Water
Analysis Batch: 561773

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	5.00	4.80		mg/L		96	90 - 110	0	10

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: MRL 280-561773/3
Matrix: Water
Analysis Batch: 561773

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			0.500	0.419	J	mg/L		84	50 - 150		

Lab Sample ID: 280-156371-4 MS
Matrix: Water
Analysis Batch: 561773

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.57		5.00	5.58		mg/L		100	80 - 120		

Lab Sample ID: 280-156371-4 MSD
Matrix: Water
Analysis Batch: 561773

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.57		5.00	5.61		mg/L		101	80 - 120	0	20

Lab Sample ID: 280-156371-4 DU
Matrix: Water
Analysis Batch: 561773

Client Sample ID: W-3
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Fluoride	0.57		0.620		mg/L		8	15

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

Lab Sample ID: MB 280-559667/1
Matrix: Water
Analysis Batch: 559667

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			12/06/21 07:32	1

Lab Sample ID: LCS 280-559667/2
Matrix: Water
Analysis Batch: 559667

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 (TDS)			503	500		mg/L		99	88 - 114		

Lab Sample ID: MB 280-559970/1
Matrix: Water
Analysis Batch: 559970

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			12/08/21 10:11	1

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

Lab Sample ID: LCS 280-559970/2
Matrix: Water
Analysis Batch: 559970

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 (TDS)	523	522		mg/L		100	88 - 114

Lab Sample ID: MB 280-561051/1
Matrix: Water
Analysis Batch: 561051

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			12/17/21 09:04	1

Lab Sample ID: LCS 280-561051/2
Matrix: Water
Analysis Batch: 561051

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 (TDS)	502	496		mg/L		99	88 - 114

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-559669/1
Matrix: Water
Analysis Batch: 559669

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			12/06/21 07:34	1

Lab Sample ID: LCS 280-559669/2
Matrix: Water
Analysis Batch: 559669

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	92.0		mg/L		92	79 - 114

Lab Sample ID: LCSD 280-559669/3
Matrix: Water
Analysis Batch: 559669

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 Suspended Solids	100	88.8		mg/L		89	79 - 114	4	20

Lab Sample ID: MB 280-559810/1
Matrix: Water
Analysis Batch: 559810

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			12/07/21 09:28	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 280-559810/2
Matrix: Water
Analysis Batch: 559810

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	88.0		mg/L		88	79 - 114

Lab Sample ID: LCSD 280-559810/3
Matrix: Water
Analysis Batch: 559810

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 Suspended Solids	100	91.2		mg/L		91	79 - 114	4	20

Metals

Prep Batch: 516380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total Recoverable	Ground Water	3005A	
280-156371-2	W-2AD	Total Recoverable	Water	3005A	
280-156371-3	W-5	Total Recoverable	Water	3005A	
280-156371-4	W-3	Total Recoverable	Water	3005A	
280-156371-5	W-5B	Total Recoverable	Water	3005A	
280-156371-6	W-5BEB	Total Recoverable	Water	3005A	
280-156371-7	W-6	Total Recoverable	Water	3005A	
280-156371-8	W-7	Total Recoverable	Water	3005A	
280-156371-9	W-9	Total Recoverable	Water	3005A	
280-156371-10	W-10B	Total Recoverable	Water	3005A	
280-156371-11	W-11	Total Recoverable	Water	3005A	
280-156371-12	W-12	Total Recoverable	Water	3005A	
MB 240-516380/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-516380/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-516380/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-156371-1 MS	W-2A	Total Recoverable	Ground Water	3005A	
280-156371-1 MSD	W-2A	Total Recoverable	Ground Water	3005A	

Prep Batch: 516382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	7470A	
280-156371-2	W-2AD	Total/NA	Water	7470A	
280-156371-3	W-5	Total/NA	Water	7470A	
280-156371-4	W-3	Total/NA	Water	7470A	
280-156371-5	W-5B	Total/NA	Water	7470A	
280-156371-6	W-5BEB	Total/NA	Water	7470A	
280-156371-7	W-6	Total/NA	Water	7470A	
280-156371-8	W-7	Total/NA	Water	7470A	
280-156371-9	W-9	Total/NA	Water	7470A	
280-156371-10	W-10B	Total/NA	Water	7470A	
280-156371-11	W-11	Total/NA	Water	7470A	
280-156371-12	W-12	Total/NA	Water	7470A	
MB 240-516382/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-516382/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-156371-1 MS	W-2A	Total/NA	Ground Water	7470A	
280-156371-1 MSD	W-2A	Total/NA	Ground Water	7470A	

Analysis Batch: 516628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total Recoverable	Ground Water	6010C	516380
280-156371-2	W-2AD	Total Recoverable	Water	6010C	516380
280-156371-3	W-5	Total Recoverable	Water	6010C	516380
280-156371-4	W-3	Total Recoverable	Water	6010C	516380
280-156371-5	W-5B	Total Recoverable	Water	6010C	516380
280-156371-6	W-5BEB	Total Recoverable	Water	6010C	516380
280-156371-7	W-6	Total Recoverable	Water	6010C	516380
280-156371-8	W-7	Total Recoverable	Water	6010C	516380
280-156371-9	W-9	Total Recoverable	Water	6010C	516380
280-156371-10	W-10B	Total Recoverable	Water	6010C	516380
280-156371-11	W-11	Total Recoverable	Water	6010C	516380
280-156371-12	W-12	Total Recoverable	Water	6010C	516380

Metals (Continued)

Analysis Batch: 516628 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-516380/1-A	Method Blank	Total Recoverable	Water	6010C	516380
LCS 240-516380/2-A	Lab Control Sample	Total Recoverable	Water	6010C	516380
280-156371-1 MS	W-2A	Total Recoverable	Ground Water	6010C	516380
280-156371-1 MSD	W-2A	Total Recoverable	Ground Water	6010C	516380

Analysis Batch: 516656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	7470A	516382
280-156371-2	W-2AD	Total/NA	Water	7470A	516382
280-156371-3	W-5	Total/NA	Water	7470A	516382
280-156371-4	W-3	Total/NA	Water	7470A	516382
280-156371-5	W-5B	Total/NA	Water	7470A	516382
280-156371-6	W-5BEB	Total/NA	Water	7470A	516382
280-156371-7	W-6	Total/NA	Water	7470A	516382
280-156371-8	W-7	Total/NA	Water	7470A	516382
280-156371-9	W-9	Total/NA	Water	7470A	516382
280-156371-10	W-10B	Total/NA	Water	7470A	516382
280-156371-11	W-11	Total/NA	Water	7470A	516382
280-156371-12	W-12	Total/NA	Water	7470A	516382
MB 240-516382/1-A	Method Blank	Total/NA	Water	7470A	516382
LCS 240-516382/2-A	Lab Control Sample	Total/NA	Water	7470A	516382
280-156371-1 MS	W-2A	Total/NA	Ground Water	7470A	516382
280-156371-1 MSD	W-2A	Total/NA	Ground Water	7470A	516382

Analysis Batch: 516676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total Recoverable	Ground Water	6020A	516380
280-156371-2	W-2AD	Total Recoverable	Water	6020A	516380
280-156371-3	W-5	Total Recoverable	Water	6020A	516380
280-156371-4	W-3	Total Recoverable	Water	6020A	516380
280-156371-5	W-5B	Total Recoverable	Water	6020A	516380
280-156371-6	W-5BEB	Total Recoverable	Water	6020A	516380
280-156371-7	W-6	Total Recoverable	Water	6020A	516380
280-156371-8	W-7	Total Recoverable	Water	6020A	516380
280-156371-9	W-9	Total Recoverable	Water	6020A	516380
280-156371-10	W-10B	Total Recoverable	Water	6020A	516380
MB 240-516380/1-A	Method Blank	Total Recoverable	Water	6020A	516380
LCS 240-516380/3-A	Lab Control Sample	Total Recoverable	Water	6020A	516380

Analysis Batch: 516825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-2	W-2AD	Total Recoverable	Water	6020A	516380
280-156371-3	W-5	Total Recoverable	Water	6020A	516380
280-156371-4	W-3	Total Recoverable	Water	6020A	516380
280-156371-5	W-5B	Total Recoverable	Water	6020A	516380
280-156371-6	W-5BEB	Total Recoverable	Water	6020A	516380
280-156371-7	W-6	Total Recoverable	Water	6020A	516380
280-156371-8	W-7	Total Recoverable	Water	6020A	516380
280-156371-9	W-9	Total Recoverable	Water	6020A	516380
280-156371-10	W-10B	Total Recoverable	Water	6020A	516380
280-156371-11	W-11	Total Recoverable	Water	6020A	516380

Metals (Continued)

Analysis Batch: 516825 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-12	W-12	Total Recoverable	Water	6020A	516380
MB 240-516380/1-A	Method Blank	Total Recoverable	Water	6020A	516380
LCS 240-516380/3-A	Lab Control Sample	Total Recoverable	Water	6020A	516380

Analysis Batch: 516928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total Recoverable	Ground Water	6020A	516380
280-156371-2	W-2AD	Total Recoverable	Water	6020A	516380
280-156371-3	W-5	Total Recoverable	Water	6020A	516380
280-156371-4	W-3	Total Recoverable	Water	6020A	516380
280-156371-5	W-5B	Total Recoverable	Water	6020A	516380
280-156371-6	W-5BEB	Total Recoverable	Water	6020A	516380
280-156371-7	W-6	Total Recoverable	Water	6020A	516380
280-156371-8	W-7	Total Recoverable	Water	6020A	516380
280-156371-9	W-9	Total Recoverable	Water	6020A	516380
280-156371-10	W-10B	Total Recoverable	Water	6020A	516380
280-156371-11	W-11	Total Recoverable	Water	6020A	516380
280-156371-12	W-12	Total Recoverable	Water	6020A	516380
MB 240-516380/1-A	Method Blank	Total Recoverable	Water	6020A	516380
LCS 240-516380/3-A	Lab Control Sample	Total Recoverable	Water	6020A	516380

General Chemistry

Analysis Batch: 559667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	SM 2540C	
280-156371-2	W-2AD	Total/NA	Water	SM 2540C	
280-156371-7	W-6	Total/NA	Water	SM 2540C	
280-156371-9	W-9	Total/NA	Water	SM 2540C	
MB 280-559667/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-559667/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 559669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	SM 2540D	
280-156371-2	W-2AD	Total/NA	Water	SM 2540D	
280-156371-7	W-6	Total/NA	Water	SM 2540D	
280-156371-9	W-9	Total/NA	Water	SM 2540D	
MB 280-559669/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-559669/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-559669/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 559810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-3	W-5	Total/NA	Water	SM 2540D	
280-156371-4	W-3	Total/NA	Water	SM 2540D	
280-156371-5	W-5B	Total/NA	Water	SM 2540D	
280-156371-6	W-5BEB	Total/NA	Water	SM 2540D	
280-156371-8	W-7	Total/NA	Water	SM 2540D	
280-156371-10	W-10B	Total/NA	Water	SM 2540D	
280-156371-11	W-11	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 559810 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-12	W-12	Total/NA	Water	SM 2540D	
MB 280-559810/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-559810/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-559810/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 559935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	9040B	
280-156371-2	W-2AD	Total/NA	Water	9040B	
280-156371-3	W-5	Total/NA	Water	9040B	
280-156371-4	W-3	Total/NA	Water	9040B	
280-156371-7	W-6	Total/NA	Water	9040B	
280-156371-9	W-9	Total/NA	Water	9040B	
LCS 280-559935/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 559970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-3	W-5	Total/NA	Water	SM 2540C	
280-156371-4	W-3	Total/NA	Water	SM 2540C	
280-156371-5	W-5B	Total/NA	Water	SM 2540C	
280-156371-8	W-7	Total/NA	Water	SM 2540C	
280-156371-10	W-10B	Total/NA	Water	SM 2540C	
280-156371-11	W-11	Total/NA	Water	SM 2540C	
280-156371-12	W-12	Total/NA	Water	SM 2540C	
MB 280-559970/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-559970/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 560189

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-5	W-5B	Total/NA	Water	9040B	
280-156371-8	W-7	Total/NA	Water	9040B	
280-156371-10	W-10B	Total/NA	Water	9040B	
280-156371-11	W-11	Total/NA	Water	9040B	
280-156371-12	W-12	Total/NA	Water	9040B	
LCS 280-560189/27	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 560808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-6	W-5BEB	Total/NA	Water	9040B	
LCS 280-560808/4	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 561051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-6	W-5BEB	Total/NA	Water	SM 2540C	
MB 280-561051/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-561051/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 561556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-2	W-2AD	Total/NA	Water	9056A	
280-156371-3	W-5	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 561556 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-4	W-3	Total/NA	Water	9056A	
280-156371-5	W-5B	Total/NA	Water	9056A	
280-156371-5	W-5B	Total/NA	Water	9056A	
280-156371-6	W-5BEB	Total/NA	Water	9056A	
280-156371-7	W-6	Total/NA	Water	9056A	
280-156371-7	W-6	Total/NA	Water	9056A	
280-156371-8	W-7	Total/NA	Water	9056A	
280-156371-9	W-9	Total/NA	Water	9056A	
280-156371-10	W-10B	Total/NA	Water	9056A	
280-156371-11	W-11	Total/NA	Water	9056A	
280-156371-12	W-12	Total/NA	Water	9056A	
MB 280-561556/6	Method Blank	Total/NA	Water	9056A	
LCS 280-561556/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-561556/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-561556/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 561643

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	9056A	
280-156371-1	W-2A	Total/NA	Ground Water	9056A	
280-156371-2	W-2AD	Total/NA	Water	9056A	
280-156371-3	W-5	Total/NA	Water	9056A	
280-156371-3	W-5	Total/NA	Water	9056A	
280-156371-4	W-3	Total/NA	Water	9056A	
280-156371-5	W-5B	Total/NA	Water	9056A	
280-156371-6	W-5BEB	Total/NA	Water	9056A	
280-156371-8	W-7	Total/NA	Water	9056A	
280-156371-8	W-7	Total/NA	Water	9056A	
280-156371-9	W-9	Total/NA	Water	9056A	
280-156371-9	W-9	Total/NA	Water	9056A	
280-156371-10	W-10B	Total/NA	Water	9056A	
280-156371-10	W-10B	Total/NA	Water	9056A	
280-156371-11	W-11	Total/NA	Water	9056A	
280-156371-12	W-12	Total/NA	Water	9056A	
280-156371-12	W-12	Total/NA	Water	9056A	
MB 280-561643/6	Method Blank	Total/NA	Water	9056A	
LCS 280-561643/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-561643/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-561643/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 561773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	9056A	
280-156371-2	W-2AD	Total/NA	Water	9056A	
280-156371-4	W-3	Total/NA	Water	9056A	
280-156371-7	W-6	Total/NA	Water	9056A	
MB 280-561773/6	Method Blank	Total/NA	Water	9056A	
LCS 280-561773/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-561773/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-561773/3	Lab Control Sample	Total/NA	Water	9056A	
280-156371-4 MS	W-3	Total/NA	Water	9056A	

General Chemistry (Continued)

Analysis Batch: 561773 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-4 MSD	W-3	Total/NA	Water	9056A	
280-156371-4 DU	W-3	Total/NA	Water	9056A	

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-1
Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 16:10	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 13:57	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		10			516928	12/15/21 13:39	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 14:46	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:19	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	561643	12/24/21 01:23	SPG	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	561643	12/24/21 01:56	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	561773	12/27/21 14:38	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559667	12/06/21 08:32	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559669	12/06/21 08:34	ABW	TAL DEN

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 16:59	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:34	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516825	12/14/21 18:29	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516928	12/15/21 13:42	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:07	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:23	SPG	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	561643	12/24/21 01:07	SPG	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	561773	12/27/21 14:55	SPG	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	561556	12/22/21 17:36	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559667	12/06/21 08:32	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559669	12/06/21 08:34	ABW	TAL DEN

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:04	RKT	TAL CAN

Client Sample ID: W-5
Lab Sample ID: 280-156371-3
Date Collected: 12/01/21 10:20
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:37	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516825	12/14/21 18:32	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516928	12/15/21 13:45	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:09	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:16	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/24/21 00:18	SPG	TAL DEN
Total/NA	Analysis	9056A		200	5 mL	5 mL	561643	12/24/21 00:34	SPG	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	561556	12/22/21 18:06	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-3
Lab Sample ID: 280-156371-4
Date Collected: 12/01/21 11:15
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:17	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:39	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 18:34	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516928	12/15/21 13:47	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:11	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:08	SPG	TAL DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	561643	12/23/21 21:17	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561773	12/27/21 13:33	SPG	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	561556	12/22/21 14:51	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-5B
Lab Sample ID: 280-156371-5
Date Collected: 12/01/21 14:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:21	RKT	TAL CAN

Client Sample ID: W-5B
Lab Sample ID: 280-156371-5
Date Collected: 12/01/21 14:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:42	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 18:37	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516928	12/15/21 13:50	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:13	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560189	12/09/21 14:01	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 18:33	SPG	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	561556	12/22/21 16:51	SPG	TAL DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	561556	12/22/21 17:06	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-5BEB
Lab Sample ID: 280-156371-6
Date Collected: 12/01/21 15:45
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:26	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:44	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 18:39	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516928	12/15/21 13:52	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:15	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560808	12/15/21 12:09	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 18:49	SPG	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	561556	12/22/21 14:36	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	561051	12/17/21 10:04	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-6
Lab Sample ID: 280-156371-7
Date Collected: 11/30/21 17:05
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:30	RKT	TAL CAN

Client Sample ID: W-6
Lab Sample ID: 280-156371-7

Date Collected: 11/30/21 17:05
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:47	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 18:42	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516928	12/15/21 13:55	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:17	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:12	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561773	12/27/21 15:11	SPG	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	561556	12/22/21 19:36	SPG	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	561556	12/22/21 19:51	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	559667	12/06/21 08:32	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559669	12/06/21 08:34	ABW	TAL DEN

Client Sample ID: W-7
Lab Sample ID: 280-156371-8

Date Collected: 12/01/21 17:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:35	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:49	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516825	12/14/21 18:49	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516928	12/15/21 14:02	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:19	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560189	12/09/21 14:11	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 19:22	SPG	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	561643	12/23/21 20:11	SPG	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	561556	12/22/21 21:51	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-9
Lab Sample ID: 280-156371-9

Date Collected: 11/30/21 15:15
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:39	RKT	TAL CAN

Client Sample ID: W-9
Lab Sample ID: 280-156371-9
Date Collected: 11/30/21 15:15
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:52	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		2			516825	12/14/21 18:52	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		2			516928	12/15/21 14:05	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:21	MRL	TAL CAN
Total/NA	Analysis	9040B		1			559935	12/07/21 17:04	SPG	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 21:33	SPG	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	561643	12/23/21 21:50	SPG	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	561556	12/22/21 16:36	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559667	12/06/21 08:32	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559669	12/06/21 08:34	ABW	TAL DEN

Client Sample ID: W-10B
Lab Sample ID: 280-156371-10
Date Collected: 12/02/21 08:20
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:44	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516676	12/13/21 14:55	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516825	12/14/21 18:54	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516928	12/15/21 14:07	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:28	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560189	12/09/21 14:15	ECC	TAL DEN
Total/NA	Analysis	9056A		5	5 mL	5 mL	561643	12/23/21 20:28	SPG	TAL DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	561643	12/23/21 20:44	SPG	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	561556	12/22/21 22:51	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-11
Lab Sample ID: 280-156371-11
Date Collected: 12/02/21 12:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:49	RKT	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-11
Lab Sample ID: 280-156371-11
Date Collected: 12/02/21 12:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 18:57	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516928	12/15/21 14:10	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:30	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560189	12/09/21 14:19	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 18:16	SPG	TAL DEN
Total/NA	Analysis	9056A		100	10 mL	10 mL	561556	12/22/21 18:36	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Client Sample ID: W-12
Lab Sample ID: 280-156371-12
Date Collected: 12/02/21 09:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516628	12/13/21 17:53	RKT	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516825	12/14/21 19:02	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516380	12/10/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		2			516928	12/15/21 14:13	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516382	12/10/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			516656	12/13/21 15:32	MRL	TAL CAN
Total/NA	Analysis	9040B		1			560189	12/09/21 14:23	ECC	TAL DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	561643	12/23/21 23:45	SPG	TAL DEN
Total/NA	Analysis	9056A		100	5 mL	5 mL	561643	12/24/21 00:01	SPG	TAL DEN
Total/NA	Analysis	9056A		10	10 mL	10 mL	561556	12/22/21 15:36	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	559970	12/08/21 10:11	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	559810	12/07/21 10:28	ABW	TAL DEN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-156371-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins TestAmerica, Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23

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
9040B		Ground Water	Temperature
9040B		Water	Temperature

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-22
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	11-06-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-18-10	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tara Kent Avery Munson	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 7209337496	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:
Address: 1670 Broadway Suite 3400	Due Date Requested:			
City: Denver	TAT Requested (days): Standard TAT			
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No			
Phone: 734-263-7138(Tel)	PO #: DEN-021			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D		
W-2A	11-30-21	1100	G	Water	N	N	✓	✓	✓	✓	5	App III & IV
W-2AD	11-30-21	1100	G	Water	N	N	✓	✓	✓	✓	5	
W-5	12-01-21	1020	G	W	N	N	✓	✓	✓	✓	5	
W-3	12-01-21	1115	G	W	N	N	✓	✓	✓	✓	5	
W-5B	12-01-21	1440	G	W	N	N	✓	✓	✓	✓	5	
W-5BEB	12-01-21	1545	G	W	N	N	✓	✓	✓	✓	5	
W-6	11-30-21	1705	G	W	N	N	✓	✓	✓	✓	5	
W-7	12-01-21	1740	G	W	N	N	✓	✓	✓	✓	5	
W-9	11-30-21	1515	G	W	N	N	✓	✓	✓	✓	5	

280-156371 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
Tara Kent	12/03/21 0958	TDR		12/3/21 0958	ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 1.3, 2.6, 2.6, 2.1, 1.2, 9-0.1

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tara Kant, Avery Munson	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 720 933 7496	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:
Address: 1670 Broadway Suite 3400	Due Date Requested:			
City: Denver	TAT Requested (days): Standard TAT			
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No			
Phone: 734-263-7138(Tel)	PO #: DEN-021			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:			

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	Z - other (specify)

Other:

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D		
W-10B	12-02-21	0820	G	Water	N	N	✓	✓	✓	✓	5	App III + IV
W-11	12-02-21	1240	G	Water	N	N	✓	✓	✓	✓	5	
W-12	12-02-21	0940	G	W	N	N	✓	✓	✓	✓	5	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date: 12/03/21 0958 TC	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Tara Kant	12/03/21 0958	HDR		12/3/21 0958	ETAPEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

24129

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-596665.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-156371-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 12/26/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

S58

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-2A (280-156371-1)	11/30/21	11:00 Mountain		Water			X	X	X	1	Use Collision Cell
W-2AD (280-156371-2)	11/30/21	11:00 Mountain		Water			X	X	X	1	Use Collision Cell
W-5 (280-156371-3)	12/1/21	10:20 Mountain		Water			X	X	X	1	Use Collision Cell
W-3 (280-156371-4)	12/1/21	11:15 Mountain		Water			X	X	X	1	Use Collision Cell
W-5B (280-156371-5)	12/1/21	14:40 Mountain		Water			X	X	X	1	Use Collision Cell
W-5BEB (280-156371-6)	12/1/21	15:45 Mountain		Water			X	X	X	1	Use Collision Cell
W-6 (280-156371-7)	11/30/21	17:05 Mountain		Water			X	X	X	1	Use Collision Cell
W-7 (280-156371-8)	12/1/21	17:40 Mountain		Water			X	X	X	1	Use Collision Cell
W-9 (280-156371-9)	11/30/21	15:15 Mountain		Water			X	X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/10/21 1115			12-9-21 1020	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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:

Ver: 06/08/2021

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-596665.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-156371-1
Address: 4101 Shuffel Street NW,	Due Date Requested: 12/26/2021			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-10B (280-156371-10)	12/2/21	08:20 Mountain		Water			X	X	X	1	Use Collision Cell
W-11 (280-156371-11)	12/2/21	12:40 Mountain		Water			X	X	X	1	Use Collision Cell
W-12 (280-156371-12)	12/2/21	09:40 Mountain		Water			X	X	X	1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification: Unconfirmed	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ 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:	Date/Time: 12/9/21 1215	Company:	Received by:	Date/Time: 12-9-21 1020	Company: EA	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
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:

Ver: 06/08/2021

12/27/2021

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** _____
Canton Facility

Client ETA Site Name _____ Cooler unpacked by: Matt

Cooler Received on 12-9-21 Opened on 12-9-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1 (8) Foam Box Client Cooler Box Other _____

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other _____

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 2.9 °C

IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp(Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156371-1

Login Number: 156371
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins TestAmerica, Denver

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.	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	

eurofins | Environment Testing America



ANALYTICAL REPORT

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-156371-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Julieann L. Kramer

Authorized for release by:
1/14/2022 7:55:25 AM
Julieann Kramer, Project Management Assistant II
(303)736-0100
Julieann.Kramer@Eurofinset.com

Designee for

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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

Job ID: 280-156371-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-156371-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 12/03/2021; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 4 coolers at receipt time were 1.2°C, 2.0°C, 2.5°C and 2.5°C

Please note, this report only contains the Radiological methods. All other methods reported under reports 280-147650-1.

RADIUM-226 (GFPC)

The following samples were prepared at a reduced aliquot due to Matrix: W-2A (280-156371-1), W-2AD (280-156371-2), W-5 (280-156371-3), W-3 (280-156371-4), W-5B (280-156371-5), W-6 (280-156371-7), W-7 (280-156371-8), W-9 (280-156371-9), W-10B (280-156371-10), W-11 (280-156371-11) and W-12 (280-156371-12).

The method 9315 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-228

The following samples were prepared at a reduced aliquot due to Matrix: W-2A (280-156371-1), W-2AD (280-156371-2), W-5 (280-156371-3), W-3 (280-156371-4), W-5B (280-156371-5), W-6 (280-156371-7), W-7 (280-156371-8), W-9 (280-156371-9), W-10B (280-156371-10), W-11 (280-156371-11) and W-12 (280-156371-12).

The method 9320 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-226/RADIUM-228 (GFPC)

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

Detection Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2A — Lab Sample ID: 280-156371-1

No Detections.

Client Sample ID: W-2AD — Lab Sample ID: 280-156371-2

No Detections.

Client Sample ID: W-5 — Lab Sample ID: 280-156371-3

No Detections.

Client Sample ID: W-3 — Lab Sample ID: 280-156371-4

No Detections.

Client Sample ID: W-5B — Lab Sample ID: 280-156371-5

No Detections.

Client Sample ID: W-5BEB — Lab Sample ID: 280-156371-6

No Detections.

Client Sample ID: W-6 — Lab Sample ID: 280-156371-7

No Detections.

Client Sample ID: W-7 — Lab Sample ID: 280-156371-8

No Detections.

Client Sample ID: W-9 — Lab Sample ID: 280-156371-9

No Detections.

Client Sample ID: W-10B — Lab Sample ID: 280-156371-10

No Detections.

Client Sample ID: W-11 — Lab Sample ID: 280-156371-11

No Detections.

Client Sample ID: W-12 — Lab Sample ID: 280-156371-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-156371-1	W-2A	Ground Water	11/30/21 11:00	12/03/21 09:58
280-156371-2	W-2AD	Water	11/30/21 11:00	12/03/21 09:58
280-156371-3	W-5	Water	12/01/21 10:20	12/03/21 09:58
280-156371-4	W-3	Water	12/01/21 11:15	12/03/21 09:58
280-156371-5	W-5B	Water	12/01/21 14:40	12/03/21 09:58
280-156371-6	W-5BEB	Water	12/01/21 15:45	12/03/21 09:58
280-156371-7	W-6	Water	11/30/21 17:05	12/03/21 09:58
280-156371-8	W-7	Water	12/01/21 17:40	12/03/21 09:58
280-156371-9	W-9	Water	11/30/21 15:15	12/03/21 09:58
280-156371-10	W-10B	Water	12/02/21 08:20	12/03/21 09:58
280-156371-11	W-11	Water	12/02/21 12:40	12/03/21 09:58
280-156371-12	W-12	Water	12/02/21 09:40	12/03/21 09:58

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.21**		0.288	0.308	1.00	0.250	pCi/L	12/20/21 15:42	01/12/22 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*88.8*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:09*	*1*

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.31**		0.291	0.314	1.00	0.238	pCi/L	12/20/21 15:42	01/12/22 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.3*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:09*	*1*

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.235**		0.119	0.120	1.00	0.153	pCi/L	12/20/21 15:42	01/12/22 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.0*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:09*	*1*

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0765	U	0.0915	0.0918	1.00	0.150	pCi/L	12/20/21 15:42	01/12/22 12:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*93.5*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:09*	*1*

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.678**		0.162	0.173	1.00	0.119	pCi/L	12/20/21 15:42	01/12/22 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:10*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.0587	U	0.0741	0.0743	1.00	0.123	pCi/L	12/20/21 15:42	01/12/22 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*71.4*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:10*	*1*

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.198**		0.101	0.103	1.00	0.122	pCi/L	12/20/21 15:42	01/12/22 12:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.5*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:10*	*1*

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.30**		0.354	0.411	1.00	0.163	pCi/L	12/20/21 15:42	01/12/22 12:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:11*	*1*

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.554**		0.152	0.160	1.00	0.126	pCi/L	12/20/21 15:42	01/12/22 12:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:11*	*1*

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.10**		0.268	0.285	1.00	0.204	pCi/L	12/20/21 15:42	01/12/22 12:11	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.8*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:11*	*1*

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.14		0.269	0.288	1.00	0.201	pCi/L	12/20/21 15:42	01/12/22 12:11	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.1		40 - 110	12/20/21 15:42	01/12/22 12:11	1

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.553		0.188	0.195	1.00	0.157	pCi/L	12/20/21 15:42	01/12/22 12:12	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110	12/20/21 15:42	01/12/22 12:12	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.86		0.715	0.762	1.00	0.850	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.8		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	81.1		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.22		0.745	0.802	1.00	0.887	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.3		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	82.2		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.571		0.326	0.330	1.00	0.483	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.0		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	81.9		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.190	U	0.331	0.332	1.00	0.562	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	93.5		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	81.5		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**0.774**		0.360	0.367	1.00	0.519	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.3		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	81.9		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.124	U	0.335	0.335	1.00	0.579	pCi/L	12/21/21 12:14	12/29/21 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	71.4		40 - 110	12/21/21 12:14	12/29/21 13:39	1
Y Carrier	81.9		40 - 110	12/21/21 12:14	12/29/21 13:39	1

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.568	U	0.393	0.397	1.00	0.615	pCi/L	12/21/21 12:14	12/29/21 13:40	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	92.5		40 - 110	12/21/21 12:14	12/29/21 13:40	1
Y Carrier	83.0		40 - 110	12/21/21 12:14	12/29/21 13:40	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.52		0.689	0.727	1.00	0.881	pCi/L	12/21/21 12:14	12/29/21 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.3*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*
Y Carrier	*83.0*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.37		0.493	0.539	1.00	0.552	pCi/L	12/21/21 12:14	12/29/21 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.5*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*
Y Carrier	*83.0*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.65		0.681	0.698	1.00	0.970	pCi/L	12/21/21 12:14	12/29/21 13:40	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*86.8*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*
Y Carrier	*81.9*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:40*	*1*

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.05		0.716	0.769	1.00	0.812	pCi/L	12/21/21 12:14	12/29/21 13:51	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*89.1*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:51*	*1*
Y Carrier	*81.1*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:51*	*1*

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.08		0.733	0.786	1.00	0.842	pCi/L	12/21/21 12:14	12/29/21 13:52	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.3		40 - 110	12/21/21 12:14	12/29/21 13:52	1
Y Carrier	81.5		40 - 110	12/21/21 12:14	12/29/21 13:52	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-2A
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-1
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.07		0.771	0.822	5.00	0.850	pCi/L		01/12/22 17:44	1

Client Sample ID: W-2AD
Date Collected: 11/30/21 11:00
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-2
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.53		0.800	0.861	5.00	0.887	pCi/L		01/12/22 17:44	1

Client Sample ID: W-5
Date Collected: 12/01/21 10:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-3
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.806		0.347	0.351	5.00	0.483	pCi/L		01/12/22 17:44	1

Client Sample ID: W-3
Date Collected: 12/01/21 11:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.267	U	0.343	0.344	5.00	0.562	pCi/L		01/12/22 17:44	1

Client Sample ID: W-5B
Date Collected: 12/01/21 14:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	1.45		0.395	0.406	5.00	0.519	pCi/L		01/12/22 17:44	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-5BEB
Date Collected: 12/01/21 15:45
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-6
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	0.183	U	0.343	0.343	5.00	0.579	pCi/L		01/12/22 17:44	1

Client Sample ID: W-6
Date Collected: 11/30/21 17:05
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-7
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**0.766**		0.406	0.410	5.00	0.615	pCi/L		01/12/22 17:44	1

Client Sample ID: W-7
Date Collected: 12/01/21 17:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-8
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**4.83**		0.775	0.835	5.00	0.881	pCi/L		01/12/22 17:44	1

Client Sample ID: W-9
Date Collected: 11/30/21 15:15
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-9
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.93**		0.516	0.562	5.00	0.552	pCi/L		01/12/22 17:44	1

Client Sample ID: W-10B
Date Collected: 12/02/21 08:20
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-10
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**2.76**		0.732	0.754	5.00	0.970	pCi/L		01/12/22 17:44	1

Client Sample ID: W-11
Date Collected: 12/02/21 12:40
Date Received: 12/03/21 09:58
Lab Sample ID: 280-156371-11
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	**4.20**		0.765	0.821	5.00	0.812	pCi/L		01/12/22 17:44	1

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-12
Date Collected: 12/02/21 09:40
Date Received: 12/03/21 09:58

Lab Sample ID: 280-156371-12
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.63		0.757	0.810	5.00	0.842	pCi/L		01/12/22 17:44	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-543045/23-A
Matrix: Water
Analysis Batch: 546037

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543045

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.01953	U	0.0699	0.0699	1.00	0.132	pCi/L	12/20/21 15:42	01/12/22 12:15	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.6*		*40 - 110*	*12/20/21 15:42*	*01/12/22 12:15*	*1*

Lab Sample ID: LCS 160-543045/1-A
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543045

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			11.3	9.793		1.02	1.00	0.0892	pCi/L	86	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.5*		*40 - 110*

Lab Sample ID: LCSD 160-543045/2-A
Matrix: Water
Analysis Batch: 546017

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 543045

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			11.3	10.43		1.08	1.00	0.0990	pCi/L	92	75 - 125	0.30	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*90.8*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-543114/23-A
Matrix: Water
Analysis Batch: 543959

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543114

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.3498	U	0.307	0.308	1.00	0.489	pCi/L	12/21/21 12:14	12/29/21 13:53	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*72.6*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:53*	*1*
Y Carrier	*83.7*		*40 - 110*	*12/21/21 12:14*	*12/29/21 13:53*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-543114/1-A
Matrix: Water
Analysis Batch: 544138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543114

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			9.01	9.057		1.08	1.00	0.407	pCi/L	100	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*91.5*		*40 - 110*
Y Carrier	*82.6*		*40 - 110*

Lab Sample ID: LCSD 160-543114/2-A
Matrix: Water
Analysis Batch: 544138

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 543114

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			9.01	9.824		1.16	1.00	0.375	pCi/L	109	75 - 125	0.34	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*90.8*		*40 - 110*
Y Carrier	*82.2*		*40 - 110*

QC Association Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Rad

Prep Batch: 543045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	PrecSep-21	
280-156371-2	W-2AD	Total/NA	Water	PrecSep-21	
280-156371-3	W-5	Total/NA	Water	PrecSep-21	
280-156371-4	W-3	Total/NA	Water	PrecSep-21	
280-156371-5	W-5B	Total/NA	Water	PrecSep-21	
280-156371-6	W-5BEB	Total/NA	Water	PrecSep-21	
280-156371-7	W-6	Total/NA	Water	PrecSep-21	
280-156371-8	W-7	Total/NA	Water	PrecSep-21	
280-156371-9	W-9	Total/NA	Water	PrecSep-21	
280-156371-10	W-10B	Total/NA	Water	PrecSep-21	
280-156371-11	W-11	Total/NA	Water	PrecSep-21	
280-156371-12	W-12	Total/NA	Water	PrecSep-21	
MB 160-543045/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-543045/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-543045/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 543114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156371-1	W-2A	Total/NA	Ground Water	PrecSep_0	
280-156371-2	W-2AD	Total/NA	Water	PrecSep_0	
280-156371-3	W-5	Total/NA	Water	PrecSep_0	
280-156371-4	W-3	Total/NA	Water	PrecSep_0	
280-156371-5	W-5B	Total/NA	Water	PrecSep_0	
280-156371-6	W-5BEB	Total/NA	Water	PrecSep_0	
280-156371-7	W-6	Total/NA	Water	PrecSep_0	
280-156371-8	W-7	Total/NA	Water	PrecSep_0	
280-156371-9	W-9	Total/NA	Water	PrecSep_0	
280-156371-10	W-10B	Total/NA	Water	PrecSep_0	
280-156371-11	W-11	Total/NA	Water	PrecSep_0	
280-156371-12	W-12	Total/NA	Water	PrecSep_0	
MB 160-543114/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-543114/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-543114/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2A
Lab Sample ID: 280-156371-1
Date Collected: 11/30/21 11:00
Matrix: Ground Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.75 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:09	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.75 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-2AD
Lab Sample ID: 280-156371-2
Date Collected: 11/30/21 11:00
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.49 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:09	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.49 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-5
Lab Sample ID: 280-156371-3
Date Collected: 12/01/21 10:20
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.11 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:09	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.11 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-3
Lab Sample ID: 280-156371-4
Date Collected: 12/01/21 11:15
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.91 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:09	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.91 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-5B
Lab Sample ID: 280-156371-5
Date Collected: 12/01/21 14:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.80 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:10	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.80 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-5BEB
Lab Sample ID: 280-156371-6
Date Collected: 12/01/21 15:45
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			1000.20 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:10	FLC	TAL SL
Total/NA	Prep	PrecSep_0			1000.20 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:39	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-6
Lab Sample ID: 280-156371-7
Date Collected: 11/30/21 17:05
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.58 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:10	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.58 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-7
Lab Sample ID: 280-156371-8
Date Collected: 12/01/21 17:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.24 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:11	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.24 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-9
Lab Sample ID: 280-156371-9
Date Collected: 11/30/21 15:15
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			750.74 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:11	FLC	TAL SL
Total/NA	Prep	PrecSep_0			750.74 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-10B
Lab Sample ID: 280-156371-10
Date Collected: 12/02/21 08:20
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.10 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:11	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.10 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			544138	12/29/21 13:40	MLK	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-11
Lab Sample ID: 280-156371-11
Date Collected: 12/02/21 12:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.63 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:11	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.63 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			543959	12/29/21 13:51	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Client Sample ID: W-12
Lab Sample ID: 280-156371-12
Date Collected: 12/02/21 09:40
Matrix: Water
Date Received: 12/03/21 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.85 mL	1.0 g	543045	12/20/21 15:42	LPS	TAL SL
Total/NA	Analysis	9315		1			546017	01/12/22 12:12	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.85 mL	1.0 g	543114	12/21/21 12:14	LPS	TAL SL
Total/NA	Analysis	9320		1			543959	12/29/21 13:52	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546045	01/12/22 17:44	EMH	TAL SL

Laboratory References:
TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tara Kent Avery Munson	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 7209337496	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:
Address: 1670 Broadway Suite 3400	Due Date Requested:			
City: Denver	TAT Requested (days): Standard TAT			
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No			
Phone: 734-263-7138(Tel)	PO #: DEN-021			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D		
W-2A	11-30-21	1100	G	Water	N	N	✓	✓	✓	✓	5	App III + IV
W-2AD	11-30-21	1100	G	Water	N	N	✓	✓	✓	✓	5	
W-5	12-01-21	1020	G	W	N	N	✓	✓	✓	✓	5	
W-3	12-01-21	1115	G	W	N	N	✓	✓	✓	✓	5	
W-5B	12-01-21	1440	G	W	N	N	✓	✓	✓	✓	5	
W-5BEB	12-01-21	1545	G	W	N	N	✓	✓	✓	✓	5	
W-6	11-30-21	1705	G	W	N	N	✓	✓	✓	✓	5	
W-7	12-01-21	1740	G	W	N	N	✓	✓	✓	✓	5	
W-9	11-30-21	1515	G	W	N	N	✓	✓	✓	✓	5	

280-156371 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ 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:	Date/Time:	Company	Received by:	Date/Time:	Company
Tara Kent	12/03/21 0958	TDR		12/3/21 0958	ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 1.3, 2.6, 2.6, 2.1, 1.2, 9-0.1

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Tara Kant, Avery Munson	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 720 933 7496	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:
Address: 1670 Broadway Suite 3400	Due Date Requested:			
City: Denver	TAT Requested (days): Standard TAT			
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No			
Phone: 734-263-7138(Tel)	PO #: DEN-021			
Email: Molly.Reeves@hdrinc.com	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:			

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	Z - other (specify)

Other:

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D		
W-10B	12-02-21	0820	G	Water	N	N	✓	✓	✓	✓	5	App III + IV
W-11	12-02-21	1240	G	Water	N	N	✓	✓	✓	✓	5	
W-12	12-02-21	0940	G	W	N	N	✓	✓	✓	✓	5	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date: 12/03/21 0958 TC	Time:	Method of Shipment:		
Relinquished by: Tara Kant	Date/Time: 12/03/21 0958	Company: HDR	Received by:	Date/Time: 12/3/21 0958	Company: ETA PEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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:

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-596666.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-156371-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/5/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

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	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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W-2A (280-156371-1)	11/30/21	11:00 Mountain		Water			X	X	X	2	
W-2AD (280-156371-2)	11/30/21	11:00 Mountain		Water			X	X	X	2	
W-5 (280-156371-3)	12/1/21	10:20 Mountain		Water			X	X	X	2	
W-3 (280-156371-4)	12/1/21	11:15 Mountain		Water			X	X	X	2	
W-5B (280-156371-5)	12/1/21	14:40 Mountain		Water			X	X	X	2	
W-5BEB (280-156371-6)	12/1/21	15:45 Mountain		Water			X	X	X	2	
W-6 (280-156371-7)	11/30/21	17:05 Mountain		Water			X	X	X	2	
W-7 (280-156371-8)	12/1/21	17:40 Mountain		Water			X	X	X	2	
W-9 (280-156371-9)	11/30/21	15:15 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	12/6/21 1445	[illegible]			
2	Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 12-7-21 0957	Company EST 876
3	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:

Ver: 06/08/2021

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-596666.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-156371-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 1/5/2022			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, 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)	9315_Ra226/PrecSep_21 Ra226 (1/3) - SUB	9320_Ra228/PrecSep_0 Ra228 (2/3) - SUB	Ra226Ra228_GFPC/ Ra226/RA228 Calc (3/3) - SUB	Total Number of containers	Special Instructions/Note:
Preservation Code:											
W-10B (280-156371-10)	12/2/21	08:20 Mountain		Water			X	X	X	2	
W-11 (280-156371-11)	12/2/21	12:40 Mountain		Water			X	X	X	2	
W-12 (280-156371-12)	12/2/21	09:40 Mountain		Water			X	X	X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
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:	Date/Time:	Company	Received by:	Date/Time:	Company
1		12/6/21 1415				
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by: Micha Konrding	12-7-21 0957	EA STL
				Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156371-2

Login Number: 156371
List Number: 1
Creator: Collins, Janice S

List Source: Eurofins Denver

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.	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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156371-2

Login Number: 156371
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins St. Louis
List Creation: 12/07/21 04:58 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.	N/A	
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-156371-1	W-2A	88.8

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
		Ba
Lab Sample ID	Client Sample ID	(40-110)
280-156371-2	W-2AD	92.3
280-156371-3	W-5	94.0
280-156371-4	W-3	93.5
280-156371-5	W-5B	96.3
280-156371-6	W-5BEB	71.4
280-156371-7	W-6	92.5
280-156371-8	W-7	96.3
280-156371-9	W-9	94.5
280-156371-10	W-10B	86.8
280-156371-11	W-11	89.1
280-156371-12	W-12	88.3
LCS 160-543045/1-A	Lab Control Sample	91.5
LCSD 160-543045/2-A	Lab Control Sample Dup	90.8
MB 160-543045/23-A	Method Blank	72.6

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-156371-1	W-2A	88.8	81.1

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
		Ba	Y
Lab Sample ID	Client Sample ID	(40-110)	(40-110)
280-156371-2	W-2AD	92.3	82.2
280-156371-3	W-5	94.0	81.9
280-156371-4	W-3	93.5	81.5
280-156371-5	W-5B	96.3	81.9
280-156371-6	W-5BEB	71.4	81.9

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-156371-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9320 - Radium-228 (GFPC) (Continued)

Matrix: Water
Prep Type: Total/NA

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-156371-7	W-6	92.5	83.0
280-156371-8	W-7	96.3	83.0
280-156371-9	W-9	94.5	83.0
280-156371-10	W-10B	86.8	81.9
280-156371-11	W-11	89.1	81.1
280-156371-12	W-12	88.3	81.5
LCS 160-543114/1-A	Lab Control Sample	91.5	82.6
LCSD 160-543114/2-A	Lab Control Sample Dup	90.8	82.2
MB 160-543114/23-A	Method Blank	72.6	83.7

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

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ANALYTICAL REPORT

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-156736-1
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
1/10/2022 10:12:26 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Metals

Qualifier	Qualifier Description
^1+	Initial Calibration Verification (ICV) is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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

Job ID: 280-156736-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-156736-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/10/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.4 C.

Please note, the chain of custody got wet and has made all sample IDs not legible. Carbon copy is legible and was used to arrange and logged samples.

DISSOLVED METALS- Method 6010C/6020A
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS- Method 6010C/6020A
Some samples required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The accuracy and precision of the Boron MS/MSD performed on a sample W-1 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The accuracy and precision of the Calcium MS/MSD performed on a sample MW-7 could not be reliably evaluated, as the concentrations present in the parent sample were 4 times greater than the matrix spike concentration. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

MS/MSD analyses were performed on sample MW-7. The MS/MSD for method 6020A exhibited multiple spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

The initial calibration verification (ICV) associated with batch 240-516991 recovered above the upper control limit for Antimony. The samples associated with this ICV were non-detects for the affected analytes; therefore, corrective action is deemed unnecessary.

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

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

Job ID: 280-156736-1 (Continued)

Laboratory: Eurofins Denver (Continued)

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

GENERAL CHEMISTRY- VARIOUS
Several samples required dilution prior to analysis for various methods. The reporting limits have been adjusted accordingly.

Total Dissolved Solids is present at a level greater than one-half the reporting limit in the method blank associated with QC batches 280-560559 and 280-560728. As the associated sample amounts are ten times greater than the method blank concentration, corrective action is deemed unnecessary.

The LCS/LCSD for method 2540D exhibited RPD data outside the QC limits for Total Suspended Solids. The individual LCS and LCSD recoveries were acceptable; however the LCS was recovered at the low end of the recovery limit range and the LCSD was recovered at the high end of the recovery limit range, causing the RPD to be out of control. The acceptable LCS/LCSD analyte recoveries indicate that the laboratory performed the method within acceptable guidelines; therefore, corrective action is deemed unnecessary.

Laboratory generated MS/MSD analysis data have been provided. The MS/MSD for Fluoride method 9056A exhibited spike compound recoveries outside the QC limits. The acceptable LCS analysis data indicated that the analytical system was operating within control; therefore, corrective action is deemed unnecessary.

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

Detection Summary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-156736-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	5.5		0.10	0.057	mg/L	1		6010C	Total Recoverable
Arsenic	0.011	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.013	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	380		5.0	2.9	mg/L	5		6020A	Total Recoverable
Molybdenum	0.023	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.63		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0019	J	0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	1.8		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	770		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	2.9		0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	27000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	39000	B	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	2.8	J	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-7
Lab Sample ID: 280-156736-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	1.1		0.50	0.29	mg/L	5		6010C	Total Recoverable
Arsenic	0.0025	J	0.0050	0.00075	mg/L	1		6020A	Total Recoverable
Barium	0.010		0.0050	0.0022	mg/L	1		6020A	Total Recoverable
Calcium	340		1.0	0.58	mg/L	1		6020A	Total Recoverable
Cadmium	0.00055	J F1	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Cobalt	0.0038		0.0010	0.00019	mg/L	1		6020A	Total Recoverable
Molybdenum	0.0023	J	0.010	0.0011	mg/L	1		6020A	Total Recoverable
Selenium	0.31	F1	0.0050	0.00089	mg/L	1		6020A	Total Recoverable
Thallium	0.0014	F1	0.0010	0.00020	mg/L	1		6020A	Total Recoverable
Lithium	1.4	F1	0.0080	0.0017	mg/L	1		6020A	Total Recoverable
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.9	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	310		15	5.1	mg/L	5		9056A	Total/NA
Fluoride	0.37	J	0.50	0.17	mg/L	1		9056A	Total/NA
Sulfate	8400		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	13000	B	1000	470	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-6B
Lab Sample ID: 280-156736-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.8		0.50	0.29	mg/L	5		6010C	Total Recoverable
Boron	5.0		0.50	0.29	mg/L	5		6010C	Dissolved
Barium	0.018	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	290		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cadmium	0.012		0.0050	0.00099	mg/L	5		6020A	Total Recoverable
Cobalt	0.092		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0065	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Thallium	0.0031	J	0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	2.8		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Barium	0.016	J	0.025	0.011	mg/L	5		6020A	Dissolved
Calcium	330		5.0	2.9	mg/L	5		6020A	Dissolved
Cadmium	0.013		0.0050	0.00099	mg/L	5		6020A	Dissolved
Cobalt	0.096		0.0050	0.00095	mg/L	5		6020A	Dissolved
Molybdenum	0.0075	J	0.050	0.0054	mg/L	5		6020A	Dissolved
Lithium	3.0		0.040	0.0083	mg/L	5		6020A	Dissolved
Thallium	0.0031	J	0.0050	0.0010	mg/L	5		6020A	Dissolved
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	21.4	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1400	J	3000	1000	mg/L	1000		9056A	Total/NA
Sulfate	47000		5000	1000	mg/L	1000		9056A	Total/NA
Total Dissolved Solids (TDS)	69000	B	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	16	*1	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-2C
Lab Sample ID: 280-156736-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.3		0.50	0.29	mg/L	5		6010C	Total Recoverable
Boron	4.5		0.50	0.29	mg/L	5		6010C	Dissolved
Arsenic	0.014	J	0.025	0.0038	mg/L	5		6020A	Total Recoverable
Barium	0.017	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	360		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cadmium	0.0028	J	0.0050	0.00099	mg/L	5		6020A	Total Recoverable
Cobalt	0.0061		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Selenium	2.2		0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0028	J	0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	3.4		0.040	0.0083	mg/L	5		6020A	Total Recoverable
Arsenic	0.017	J	0.025	0.0038	mg/L	5		6020A	Dissolved
Barium	0.016	J	0.025	0.011	mg/L	5		6020A	Dissolved
Calcium	130		5.0	2.9	mg/L	5		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Client Sample ID: W-2C (Continued) — Lab Sample ID: 280-156736-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.0026	J	0.0050	0.00099	mg/L	5		6020A	Dissolved
Cobalt	0.0065		0.0050	0.00095	mg/L	5		6020A	Dissolved
Selenium	2.3		0.025	0.0045	mg/L	5		6020A	Dissolved
Lithium	3.8		0.040	0.0083	mg/L	5		6020A	Dissolved
Thallium	0.0028	J	0.0050	0.0010	mg/L	5		6020A	Dissolved
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.8	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	800		15	5.1	mg/L	5		9056A	Total/NA
Sulfate	39000		1000	210	mg/L	200		9056A	Total/NA
Total Dissolved Solids (TDS)	54000	B	1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.8	*1	4.0	1.1	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-3B — Lab Sample ID: 280-156736-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	4.7		0.50	0.29	mg/L	5		6010C	Total Recoverable
Barium	0.015	J	0.025	0.011	mg/L	5		6020A	Total Recoverable
Calcium	390		5.0	2.9	mg/L	5		6020A	Total Recoverable
Cadmium	0.017		0.0050	0.00099	mg/L	5		6020A	Total Recoverable
Cobalt	0.10		0.0050	0.00095	mg/L	5		6020A	Total Recoverable
Molybdenum	0.0088	J	0.050	0.0054	mg/L	5		6020A	Total Recoverable
Selenium	0.016	J	0.025	0.0045	mg/L	5		6020A	Total Recoverable
Thallium	0.0026	J	0.0050	0.0010	mg/L	5		6020A	Total Recoverable
Lithium	2.5		0.040	0.0083	mg/L	5		6020A	Total Recoverable
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	22.3	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1100		600	200	mg/L	200		9056A	Total/NA
Sulfate	91000		2500	520	mg/L	500		9056A	Total/NA
Total Dissolved Solids (TDS)	71000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	8.0		4.0	1.1	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
6020A	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
9040B	pH	SW846	TAL DEN
9056A	Anions, Ion Chromatography	SW846	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN

Protocol References:

None = None

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:

TAL CAN = Eurofins Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-156736-1	W-1	Water	12/08/21 11:00	12/10/21 16:10
280-156736-2	MW-7	Ground Water	12/08/21 14:30	12/10/21 16:10
280-156736-3	W-6B	Ground Water	12/09/21 16:00	12/10/21 16:10
280-156736-4	W-2C	Water	12/09/21 10:30	12/10/21 16:10
280-156736-5	W-3B	Water	12/10/21 11:30	12/10/21 16:10

Method: 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.5**		0.10	0.057	mg/L		12/15/21 14:00	12/16/21 10:55	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**1.1**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 12:31	5

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.8**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 12:35	5

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.3**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 12:39	5

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.7**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 12:44	5

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**5.0**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 12:52	5

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**4.5**		0.50	0.29	mg/L		12/15/21 14:00	12/16/21 13:05	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:04	5
Arsenic	**0.011**	**J**	0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:04	5
Barium	**0.013**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:04	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 10:48	5
Calcium	**380**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:04	5
Cadmium	ND		0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:04	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:04	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:04	5
Molybdenum	**0.023**	**J**	0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:04	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:04	5
Selenium	**0.63**		0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:04	5
Thallium	**0.0019**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:04	5
Lithium	**1.8**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:04	5

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^1+	0.0020	0.00057	mg/L		12/15/21 14:00	12/16/21 13:06	1
Arsenic	**0.0025**	**J**	0.0050	0.00075	mg/L		12/15/21 14:00	12/16/21 13:06	1
Barium	**0.010**		0.0050	0.0022	mg/L		12/15/21 14:00	12/16/21 13:06	1
Beryllium	ND	F1	0.0010	0.00062	mg/L		12/15/21 14:00	12/17/21 10:50	1
Calcium	**340**		1.0	0.58	mg/L		12/15/21 14:00	12/16/21 13:06	1
Cadmium	**0.00055**	**J F1**	0.0010	0.00020	mg/L		12/15/21 14:00	12/16/21 13:06	1
Cobalt	**0.0038**		0.0010	0.00019	mg/L		12/15/21 14:00	12/16/21 13:06	1
Chromium	ND	F1	0.0025	0.0025	mg/L		12/15/21 14:00	12/16/21 13:06	1
Molybdenum	**0.0023**	**J**	0.010	0.0011	mg/L		12/15/21 14:00	12/16/21 13:06	1
Lead	ND	F1	0.0010	0.00045	mg/L		12/15/21 14:00	12/16/21 13:06	1
Selenium	**0.31**	**F1**	0.0050	0.00089	mg/L		12/15/21 14:00	12/16/21 13:06	1
Thallium	**0.0014**	**F1**	0.0010	0.00020	mg/L		12/15/21 14:00	12/16/21 13:06	1
Lithium	**1.4**	**F1**	0.0080	0.0017	mg/L		12/15/21 14:00	12/16/21 13:06	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:34	5
Arsenic	ND		0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:34	5
Barium	**0.018**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:34	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 11:03	5
Calcium	**290**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:34	5
Cadmium	**0.012**		0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:34	5
Cobalt	**0.092**		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:34	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:34	5
Molybdenum	**0.0065**	**J**	0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:34	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:34	5
Selenium	ND		0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:34	5
Thallium	**0.0031**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:34	5
Lithium	**2.8**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:34	5

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:40	5
Arsenic	**0.014**	**J**	0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:40	5

Method: 6020A - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10

Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	**0.017**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:40	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 11:05	5
Calcium	**360**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:40	5
Cadmium	**0.0028**	**J**	0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:40	5
Cobalt	**0.0061**		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:40	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:40	5
Molybdenum	ND		0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:40	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:40	5
Selenium	**2.2**		0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:40	5
Thallium	**0.0028**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:40	5
Lithium	**3.4**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:40	5

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10

Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:29	5
Arsenic	ND		0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:29	5
Barium	**0.015**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:29	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 11:13	5
Calcium	**390**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:29	5
Cadmium	**0.017**		0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:29	5
Cobalt	**0.10**		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:29	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:29	5
Molybdenum	**0.0088**	**J**	0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:29	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:29	5
Selenium	**0.016**	**J**	0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:29	5
Thallium	**0.0026**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:29	5
Lithium	**2.5**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:29	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10

Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:37	5
Barium	**0.016**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:37	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 11:15	5
Calcium	**330**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:37	5
Cadmium	**0.013**		0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:37	5
Cobalt	**0.096**		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:37	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:37	5
Molybdenum	**0.0075**	**J**	0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:37	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:37	5
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:37	5
Selenium	ND		0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:37	5
Lithium	**3.0**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:37	5
Thallium	**0.0031**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:37	5

Method: 6020A - Metals (ICP/MS) - Dissolved

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.017**	**J**	0.025	0.0038	mg/L		12/15/21 14:00	12/16/21 13:42	5
Barium	**0.016**	**J**	0.025	0.011	mg/L		12/15/21 14:00	12/16/21 13:42	5
Beryllium	ND		0.0050	0.0031	mg/L		12/15/21 14:00	12/17/21 11:18	5
Calcium	**130**		5.0	2.9	mg/L		12/15/21 14:00	12/16/21 13:42	5
Cadmium	**0.0026**	**J**	0.0050	0.00099	mg/L		12/15/21 14:00	12/16/21 13:42	5
Cobalt	**0.0065**		0.0050	0.00095	mg/L		12/15/21 14:00	12/16/21 13:42	5
Chromium	ND		0.012	0.012	mg/L		12/15/21 14:00	12/16/21 13:42	5
Molybdenum	ND		0.050	0.0054	mg/L		12/15/21 14:00	12/16/21 13:42	5
Lead	ND		0.0050	0.0023	mg/L		12/15/21 14:00	12/16/21 13:42	5
Antimony	ND	^1+	0.010	0.0029	mg/L		12/15/21 14:00	12/16/21 13:42	5
Selenium	**2.3**		0.025	0.0045	mg/L		12/15/21 14:00	12/16/21 13:42	5
Lithium	**3.8**		0.040	0.0083	mg/L		12/15/21 14:00	12/16/21 13:42	5
Thallium	**0.0028**	**J**	0.0050	0.0010	mg/L		12/15/21 14:00	12/16/21 13:42	5

Method: 7470A - Mercury (CVAA)

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:24	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:31	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:33	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:35	1

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:37	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:43	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:46	1

General Chemistry

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU			12/17/21 20:17	1
Temperature	22.3	HF	1.0	1.0	Degrees C			12/17/21 20:17	1
Chloride	770		15	5.1	mg/L			01/05/22 04:54	5
Fluoride	2.9		0.50	0.17	mg/L			01/05/22 04:38	1
Sulfate	27000		2500	520	mg/L			01/05/22 05:09	500
Total Dissolved Solids (TDS)	39000	B	1000	470	mg/L			12/14/21 09:21	1
Total Suspended Solids	2.8	J	4.0	1.1	mg/L			12/14/21 09:32	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.3	HF	0.1	0.1	SU			12/17/21 20:23	1
Temperature	21.9	HF	1.0	1.0	Degrees C			12/17/21 20:23	1
Chloride	310		15	5.1	mg/L			01/05/22 05:39	5
Fluoride	0.37	J	0.50	0.17	mg/L			01/05/22 05:24	1
Sulfate	8400		1000	210	mg/L			01/05/22 05:54	200
Total Dissolved Solids (TDS)	13000	B	1000	470	mg/L			12/14/21 09:21	1
Total Suspended Solids	ND		4.0	1.1	mg/L			12/14/21 09:32	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			12/17/21 20:19	1
Temperature	21.4	HF	1.0	1.0	Degrees C			12/17/21 20:19	1
Chloride	1400	J	3000	1000	mg/L			01/05/22 06:39	1000
Fluoride	ND		0.50	0.17	mg/L			01/05/22 06:09	1
Sulfate	47000		5000	1000	mg/L			01/05/22 06:39	1000
Total Dissolved Solids (TDS)	69000	B	1000	470	mg/L			12/15/21 09:20	1
Total Suspended Solids	16	*1	4.0	1.1	mg/L			12/16/21 08:46	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.2	HF	0.1	0.1	SU			12/17/21 20:13	1

General Chemistry (Continued)

Client Sample ID: W-2C
Lab Sample ID: 280-156736-4
Date Collected: 12/09/21 10:30
Matrix: Water
Date Received: 12/10/21 16:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Temperature	22.8	HF	1.0	1.0	Degrees C			12/17/21 20:13	1
Chloride	800		15	5.1	mg/L			01/05/22 07:39	5
Fluoride	ND		0.50	0.17	mg/L			01/05/22 07:24	1
Sulfate	39000		1000	210	mg/L			01/05/22 07:54	200
Total Dissolved Solids (TDS)	54000	B	1000	470	mg/L			12/15/21 09:20	1
Total Suspended Solids	8.8	*1	4.0	1.1	mg/L			12/16/21 08:46	1

Client Sample ID: W-3B
Lab Sample ID: 280-156736-5
Date Collected: 12/10/21 11:30
Matrix: Water
Date Received: 12/10/21 16:10

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C	7.1	HF	0.1	0.1	SU			12/17/21 20:09	1
Temperature	22.3	HF	1.0	1.0	Degrees C			12/17/21 20:09	1
Chloride	1100		600	200	mg/L			01/05/22 08:38	200
Fluoride	ND		0.50	0.17	mg/L			01/05/22 08:08	1
Sulfate	91000		2500	520	mg/L			01/05/22 16:36	500
Total Dissolved Solids (TDS)	71000		1000	470	mg/L			12/16/21 08:42	1
Total Suspended Solids	8.0		4.0	1.1	mg/L			12/15/21 09:25	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 240-516830/1-A
Matrix: Water
Analysis Batch: 516982

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.057	mg/L		12/15/21 14:00	12/16/21 10:47	1

Lab Sample ID: LCS 240-516830/2-A
Matrix: Water
Analysis Batch: 516982

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.993		mg/L		99	80 - 120

Lab Sample ID: 280-156736-1 MS
Matrix: Water
Analysis Batch: 516982

Client Sample ID: W-1
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	5.5		1.00	6.39	4	mg/L		88	75 - 125

Lab Sample ID: 280-156736-1 MSD
Matrix: Water
Analysis Batch: 516982

Client Sample ID: W-1
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	5.5		1.00	6.32	4	mg/L		81	75 - 125	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 240-516830/1-A
Matrix: Water
Analysis Batch: 516991

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.00075	mg/L		12/15/21 14:00	12/16/21 12:59	1
Barium	ND		0.0050	0.0022	mg/L		12/15/21 14:00	12/16/21 12:59	1
Calcium	ND		1.0	0.58	mg/L		12/15/21 14:00	12/16/21 12:59	1
Cadmium	ND		0.0010	0.00020	mg/L		12/15/21 14:00	12/16/21 12:59	1
Cobalt	ND		0.0010	0.00019	mg/L		12/15/21 14:00	12/16/21 12:59	1
Chromium	ND		0.0025	0.0025	mg/L		12/15/21 14:00	12/16/21 12:59	1
Molybdenum	ND		0.010	0.0011	mg/L		12/15/21 14:00	12/16/21 12:59	1
Antimony	ND	^1+	0.0020	0.00057	mg/L		12/15/21 14:00	12/16/21 12:59	1
Lead	ND		0.0010	0.00045	mg/L		12/15/21 14:00	12/16/21 12:59	1
Selenium	ND		0.0050	0.00089	mg/L		12/15/21 14:00	12/16/21 12:59	1
Lithium	ND		0.0080	0.0017	mg/L		12/15/21 14:00	12/16/21 12:59	1
Thallium	ND		0.0010	0.00020	mg/L		12/15/21 14:00	12/16/21 12:59	1

Lab Sample ID: MB 240-516830/1-A
Matrix: Water
Analysis Batch: 517081

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.00062	mg/L		12/15/21 14:00	12/17/21 10:43	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-516830/3-A
Matrix: Water
Analysis Batch: 516991

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.836		mg/L		84	80 - 120
Barium	1.00	0.876		mg/L		88	80 - 120
Calcium	25.0	22.4		mg/L		90	80 - 120
Cadmium	0.500	0.437		mg/L		87	80 - 120
Cobalt	0.500	0.430		mg/L		86	80 - 120
Chromium	0.500	0.452		mg/L		90	80 - 120
Molybdenum	0.500	0.428		mg/L		86	80 - 120
Antimony	0.100	0.0912	^1+	mg/L		91	80 - 120
Lead	0.500	0.459		mg/L		92	80 - 120
Selenium	1.00	0.804		mg/L		80	80 - 120
Lithium	0.500	0.441		mg/L		88	80 - 120
Thallium	1.00	0.893		mg/L		89	80 - 120

Lab Sample ID: LCS 240-516830/3-A
Matrix: Water
Analysis Batch: 517081

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.500	0.442		mg/L		88	80 - 120

Lab Sample ID: 280-156736-2 MS
Matrix: Ground Water
Analysis Batch: 516991

Client Sample ID: MW-7
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0025	J	1.00	0.847		mg/L		84	75 - 125
Barium	0.010		1.00	0.838		mg/L		83	75 - 125
Calcium	340		25.0	352	4	mg/L		57	75 - 125
Cadmium	0.00055	J F1	0.500	0.384		mg/L		77	75 - 125
Cobalt	0.0038		0.500	0.436		mg/L		87	75 - 125
Chromium	ND	F1	0.500	0.391		mg/L		78	75 - 125
Molybdenum	0.0023	J	0.500	0.431		mg/L		86	75 - 125
Antimony	ND	^1+	0.100	0.0841	^1+	mg/L		84	75 - 125
Lead	ND	F1	0.500	0.391		mg/L		78	75 - 125
Selenium	0.31	F1	1.00	1.08		mg/L		77	75 - 125
Lithium	1.4	F1	0.500	1.72	F1	mg/L		72	75 - 125
Thallium	0.0014	F1	1.00	0.772		mg/L		77	75 - 125

Lab Sample ID: 280-156736-2 MS
Matrix: Ground Water
Analysis Batch: 517081

Client Sample ID: MW-7
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND	F1	0.500	0.370	F1	mg/L		74	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 280-156736-2 MSD
Matrix: Ground Water
Analysis Batch: 516991

Client Sample ID: MW-7
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0025	J	1.00	0.803		mg/L		80	75 - 125	5	20
Barium	0.010		1.00	0.767		mg/L		76	75 - 125	9	20
Calcium	340		25.0	335	4	mg/L		-9	75 - 125	5	20
Cadmium	0.00055	J F1	0.500	0.362	F1	mg/L		72	75 - 125	6	20
Cobalt	0.0038		0.500	0.417		mg/L		83	75 - 125	5	20
Chromium	ND	F1	0.500	0.371	F1	mg/L		74	75 - 125	5	20
Molybdenum	0.0023	J	0.500	0.406		mg/L		81	75 - 125	6	20
Antimony	ND	^1+	0.100	0.0802	^1+	mg/L		80	75 - 125	5	20
Lead	ND	F1	0.500	0.369	F1	mg/L		74	75 - 125	6	20
Selenium	0.31	F1	1.00	1.02	F1	mg/L		71	75 - 125	5	20
Lithium	1.4	F1	0.500	1.64	F1	mg/L		56	75 - 125	5	20
Thallium	0.0014	F1	1.00	0.727	F1	mg/L		73	75 - 125	6	20

Lab Sample ID: 280-156736-2 MSD
Matrix: Ground Water
Analysis Batch: 517081

Client Sample ID: MW-7
Prep Type: Total Recoverable
Prep Batch: 516830

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND	F1	0.500	0.348	F1	mg/L		70	75 - 125	6	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-516843/1-A
Matrix: Water
Analysis Batch: 517179

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516843

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00013	mg/L		12/15/21 14:00	12/17/21 14:20	1

Lab Sample ID: LCS 240-516843/2-A
Matrix: Water
Analysis Batch: 517179

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516843

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00513		mg/L		103	80 - 120

Lab Sample ID: 280-156736-1 MS
Matrix: Water
Analysis Batch: 517179

Client Sample ID: W-1
Prep Type: Total/NA
Prep Batch: 516843

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00100	0.000949		mg/L		95	80 - 120

Lab Sample ID: 280-156736-1 MSD
Matrix: Water
Analysis Batch: 517179

Client Sample ID: W-1
Prep Type: Total/NA
Prep Batch: 516843

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00100	0.000891		mg/L		89	80 - 120	6	20

Method: 9040B - pH

Lab Sample ID: LCS 280-561159/73
Matrix: Water
Analysis Batch: 561159

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		101	99 - 101

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: MB 280-562460/58
Matrix: Water
Analysis Batch: 562460

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	1.0	mg/L			01/05/22 01:53	1
Fluoride	ND		0.50	0.17	mg/L			01/05/22 01:53	1
Sulfate	ND		5.0	1.0	mg/L			01/05/22 01:53	1

Lab Sample ID: LCS 280-562460/56
Matrix: Water
Analysis Batch: 562460

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	99.3		mg/L		99	90 - 110
Fluoride	5.00	4.66		mg/L		93	90 - 110
Sulfate	100	99.4		mg/L		99	90 - 110

Lab Sample ID: LCSD 280-562460/57
Matrix: Water
Analysis Batch: 562460

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	100	99.1		mg/L		99	90 - 110	0	10
Fluoride	5.00	4.70		mg/L		94	90 - 110	1	10
Sulfate	100	99.2		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-562460/3
Matrix: Water
Analysis Batch: 562460

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.74		mg/L		95	50 - 150
Fluoride	0.500	0.466	J	mg/L		93	50 - 150
Sulfate	5.00	4.61	J	mg/L		92	50 - 150

Lab Sample ID: MB 280-562553/6
Matrix: Water
Analysis Batch: 562553

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.0	mg/L			01/05/22 12:39	1

Method: 9056A - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 280-562553/4
Matrix: Water
Analysis Batch: 562553

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			100	98.9		mg/L		99	90 - 110		

Lab Sample ID: LCSD 280-562553/5
Matrix: Water
Analysis Batch: 562553

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
Sulfate			100	99.0		mg/L		99	90 - 110	0	10

Lab Sample ID: MRL 280-562553/3
Matrix: Water
Analysis Batch: 562553

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

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfate			5.00	4.05	J	mg/L		81	50 - 150		

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

Lab Sample ID: MB 280-560559/1
Matrix: Water
Analysis Batch: 560559

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	28.0		10	4.7	mg/L			12/14/21 08:21	1

Lab Sample ID: LCS 280-560559/2
Matrix: Water
Analysis Batch: 560559

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 (TDS)			507	506		mg/L		100	88 - 114		

Lab Sample ID: MB 280-560728/1
Matrix: Water
Analysis Batch: 560728

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	9.00	J	10	4.7	mg/L			12/15/21 09:20	1

Lab Sample ID: LCS 280-560728/2
Matrix: Water
Analysis Batch: 560728

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 (TDS)			502	501		mg/L		100	88 - 114		

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

Lab Sample ID: MB 280-560864/1
Matrix: Water
Analysis Batch: 560864

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (TDS)	ND		10	4.7	mg/L			12/16/21 07:42	1

Lab Sample ID: LCS 280-560864/2
Matrix: Water
Analysis Batch: 560864

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 (TDS)	502	504		mg/L		100	88 - 114

Lab Sample ID: LCSD 280-560864/3
Matrix: Water
Analysis Batch: 560864

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 (TDS)	502	498		mg/L		99	88 - 114	1	20

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 280-560566/1
Matrix: Water
Analysis Batch: 560566

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			12/14/21 08:31	1

Lab Sample ID: LCS 280-560566/2
Matrix: Water
Analysis Batch: 560566

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	100	95.2		mg/L		95	79 - 114

Lab Sample ID: LCSD 280-560566/3
Matrix: Water
Analysis Batch: 560566

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 Suspended Solids	100	89.2		mg/L		89	79 - 114	7	20

Lab Sample ID: 280-156736-2 DU
Matrix: Ground Water
Analysis Batch: 560566

Client Sample ID: MW-7
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	ND		2.00	J	mg/L		NC	10

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: MB 280-560729/1
Matrix: Water
Analysis Batch: 560729

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			12/15/21 09:25	1

Lab Sample ID: LCS 280-560729/2
Matrix: Water
Analysis Batch: 560729

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	83.6		mg/L		84	79 - 114		

Lab Sample ID: LCSD 280-560729/3
Matrix: Water
Analysis Batch: 560729

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 Suspended Solids			100	85.6		mg/L		86	79 - 114	2	20

Lab Sample ID: MB 280-560866/1
Matrix: Water
Analysis Batch: 560866

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		4.0	1.1	mg/L			12/16/21 07:46	1

Lab Sample ID: LCS 280-560866/2
Matrix: Water
Analysis Batch: 560866

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			100	79.6		mg/L		80	79 - 114		

Lab Sample ID: LCSD 280-560866/3
Matrix: Water
Analysis Batch: 560866

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 Suspended Solids			100	112	*1	mg/L		112	79 - 114	33	20

Metals

Prep Batch: 516830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total Recoverable	Water	3005A	
280-156736-2	MW-7	Total Recoverable	Ground Water	3005A	
280-156736-3	W-6B	Dissolved	Ground Water	3005A	516839
280-156736-3	W-6B	Total Recoverable	Ground Water	3005A	
280-156736-4	W-2C	Dissolved	Water	3005A	516839
280-156736-4	W-2C	Total Recoverable	Water	3005A	
280-156736-5	W-3B	Total Recoverable	Water	3005A	
MB 240-516830/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-516830/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-516830/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-156736-1 MS	W-1	Total Recoverable	Water	3005A	
280-156736-1 MSD	W-1	Total Recoverable	Water	3005A	
280-156736-2 MS	MW-7	Total Recoverable	Ground Water	3005A	
280-156736-2 MSD	MW-7	Total Recoverable	Ground Water	3005A	

Filtration Batch: 516839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-3	W-6B	Dissolved	Ground Water	FILTRATION	
280-156736-4	W-2C	Dissolved	Water	FILTRATION	

Prep Batch: 516843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	7470A	
280-156736-2	MW-7	Total/NA	Ground Water	7470A	
280-156736-3	W-6B	Dissolved	Ground Water	7470A	516839
280-156736-3	W-6B	Total/NA	Ground Water	7470A	
280-156736-4	W-2C	Dissolved	Water	7470A	516839
280-156736-4	W-2C	Total/NA	Water	7470A	
280-156736-5	W-3B	Total/NA	Water	7470A	
MB 240-516843/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-516843/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-156736-1 MS	W-1	Total/NA	Water	7470A	
280-156736-1 MSD	W-1	Total/NA	Water	7470A	

Analysis Batch: 516982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total Recoverable	Water	6010C	516830
280-156736-2	MW-7	Total Recoverable	Ground Water	6010C	516830
280-156736-3	W-6B	Dissolved	Ground Water	6010C	516830
280-156736-3	W-6B	Total Recoverable	Ground Water	6010C	516830
280-156736-4	W-2C	Dissolved	Water	6010C	516830
280-156736-4	W-2C	Total Recoverable	Water	6010C	516830
280-156736-5	W-3B	Total Recoverable	Water	6010C	516830
MB 240-516830/1-A	Method Blank	Total Recoverable	Water	6010C	516830
LCS 240-516830/2-A	Lab Control Sample	Total Recoverable	Water	6010C	516830
280-156736-1 MS	W-1	Total Recoverable	Water	6010C	516830
280-156736-1 MSD	W-1	Total Recoverable	Water	6010C	516830

Analysis Batch: 516991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total Recoverable	Water	6020A	516830

Metals (Continued)

Analysis Batch: 516991 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-2	MW-7	Total Recoverable	Ground Water	6020A	516830
280-156736-3	W-6B	Dissolved	Ground Water	6020A	516830
280-156736-3	W-6B	Total Recoverable	Ground Water	6020A	516830
280-156736-4	W-2C	Dissolved	Water	6020A	516830
280-156736-4	W-2C	Total Recoverable	Water	6020A	516830
280-156736-5	W-3B	Total Recoverable	Water	6020A	516830
MB 240-516830/1-A	Method Blank	Total Recoverable	Water	6020A	516830
LCS 240-516830/3-A	Lab Control Sample	Total Recoverable	Water	6020A	516830
280-156736-2 MS	MW-7	Total Recoverable	Ground Water	6020A	516830
280-156736-2 MSD	MW-7	Total Recoverable	Ground Water	6020A	516830

Analysis Batch: 517081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total Recoverable	Water	6020A	516830
280-156736-2	MW-7	Total Recoverable	Ground Water	6020A	516830
280-156736-3	W-6B	Dissolved	Ground Water	6020A	516830
280-156736-3	W-6B	Total Recoverable	Ground Water	6020A	516830
280-156736-4	W-2C	Dissolved	Water	6020A	516830
280-156736-4	W-2C	Total Recoverable	Water	6020A	516830
280-156736-5	W-3B	Total Recoverable	Water	6020A	516830
MB 240-516830/1-A	Method Blank	Total Recoverable	Water	6020A	516830
LCS 240-516830/3-A	Lab Control Sample	Total Recoverable	Water	6020A	516830
280-156736-2 MS	MW-7	Total Recoverable	Ground Water	6020A	516830
280-156736-2 MSD	MW-7	Total Recoverable	Ground Water	6020A	516830

Analysis Batch: 517179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	7470A	516843
280-156736-2	MW-7	Total/NA	Ground Water	7470A	516843
280-156736-3	W-6B	Dissolved	Ground Water	7470A	516843
280-156736-3	W-6B	Total/NA	Ground Water	7470A	516843
280-156736-4	W-2C	Dissolved	Water	7470A	516843
280-156736-4	W-2C	Total/NA	Water	7470A	516843
280-156736-5	W-3B	Total/NA	Water	7470A	516843
MB 240-516843/1-A	Method Blank	Total/NA	Water	7470A	516843
LCS 240-516843/2-A	Lab Control Sample	Total/NA	Water	7470A	516843
280-156736-1 MS	W-1	Total/NA	Water	7470A	516843
280-156736-1 MSD	W-1	Total/NA	Water	7470A	516843

General Chemistry

Analysis Batch: 560559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	SM 2540C	
280-156736-2	MW-7	Total/NA	Ground Water	SM 2540C	
MB 280-560559/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-560559/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 560566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	SM 2540D	

General Chemistry (Continued)

Analysis Batch: 560566 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-2	MW-7	Total/NA	Ground Water	SM 2540D	
MB 280-560566/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-560566/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-560566/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	
280-156736-2 DU	MW-7	Total/NA	Ground Water	SM 2540D	

Analysis Batch: 560728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-3	W-6B	Total/NA	Ground Water	SM 2540C	
280-156736-4	W-2C	Total/NA	Water	SM 2540C	
MB 280-560728/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-560728/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 560729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-5	W-3B	Total/NA	Water	SM 2540D	
MB 280-560729/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-560729/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-560729/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 560864

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-5	W-3B	Total/NA	Water	SM 2540C	
MB 280-560864/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-560864/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 280-560864/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	

Analysis Batch: 560866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-3	W-6B	Total/NA	Ground Water	SM 2540D	
280-156736-4	W-2C	Total/NA	Water	SM 2540D	
MB 280-560866/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-560866/2	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-560866/3	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 561159

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	9040B	
280-156736-2	MW-7	Total/NA	Ground Water	9040B	
280-156736-3	W-6B	Total/NA	Ground Water	9040B	
280-156736-4	W-2C	Total/NA	Water	9040B	
280-156736-5	W-3B	Total/NA	Water	9040B	
LCS 280-561159/73	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 562460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	9056A	
280-156736-1	W-1	Total/NA	Water	9056A	
280-156736-1	W-1	Total/NA	Water	9056A	
280-156736-2	MW-7	Total/NA	Ground Water	9056A	
280-156736-2	MW-7	Total/NA	Ground Water	9056A	

General Chemistry (Continued)

Analysis Batch: 562460 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-2	MW-7	Total/NA	Ground Water	9056A	
280-156736-3	W-6B	Total/NA	Ground Water	9056A	
280-156736-3	W-6B	Total/NA	Ground Water	9056A	
280-156736-4	W-2C	Total/NA	Water	9056A	
280-156736-4	W-2C	Total/NA	Water	9056A	
280-156736-4	W-2C	Total/NA	Water	9056A	
280-156736-5	W-3B	Total/NA	Water	9056A	
280-156736-5	W-3B	Total/NA	Water	9056A	
MB 280-562460/58	Method Blank	Total/NA	Water	9056A	
LCS 280-562460/56	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-562460/57	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-562460/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 562553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-5	W-3B	Total/NA	Water	9056A	
MB 280-562553/6	Method Blank	Total/NA	Water	9056A	
LCS 280-562553/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-562553/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-562553/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-156736-1
Date Collected: 12/08/21 11:00
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		1			516982	12/16/21 10:55	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516991	12/16/21 13:04	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			517081	12/17/21 10:48	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			517179	12/17/21 14:24	SLD	TAL CAN
Total/NA	Analysis	9040B		1			561159	12/17/21 20:17	ECC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	562460	01/05/22 04:38	SPG	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	562460	01/05/22 04:54	SPG	TAL DEN
Total/NA	Analysis	9056A		500	10 mL	10 mL	562460	01/05/22 05:09	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	560559	12/14/21 09:21	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	560566	12/14/21 09:32	ABW	TAL DEN

Client Sample ID: MW-7
Lab Sample ID: 280-156736-2
Date Collected: 12/08/21 14:30
Matrix: Ground Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			516982	12/16/21 12:31	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			516991	12/16/21 13:06	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		1			517081	12/17/21 10:50	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			517179	12/17/21 14:31	SLD	TAL CAN
Total/NA	Analysis	9040B		1			561159	12/17/21 20:23	ECC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	562460	01/05/22 05:24	SPG	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	562460	01/05/22 05:39	SPG	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	562460	01/05/22 05:54	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	560559	12/14/21 09:21	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	560566	12/14/21 09:32	ABW	TAL DEN

Client Sample ID: W-6B
Lab Sample ID: 280-156736-3
Date Collected: 12/09/21 16:00
Matrix: Ground Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6010C		5			516982	12/16/21 12:52	KLC	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-6B
Lab Sample ID: 280-156736-3
Date Collected: 12/09/21 16:00
Matrix: Ground Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			516982	12/16/21 12:35	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		5			516991	12/16/21 13:37	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		5			517081	12/17/21 11:15	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516991	12/16/21 13:34	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			517081	12/17/21 11:03	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	7470A		1			517179	12/17/21 14:43	SLD	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			517179	12/17/21 14:33	SLD	TAL CAN
Total/NA	Analysis	9040B		1			561159	12/17/21 20:19	ECC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	562460	01/05/22 06:09	SPG	TAL DEN
Total/NA	Analysis	9056A		1000	10 mL	10 mL	562460	01/05/22 06:39	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	560728	12/15/21 09:20	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	560866	12/16/21 08:46	ABW	TAL DEN

Client Sample ID: W-2C
Lab Sample ID: 280-156736-4
Date Collected: 12/09/21 10:30
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6010C		5			516982	12/16/21 13:05	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			516982	12/16/21 12:39	KLC	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		5			516991	12/16/21 13:42	DSH	TAL CAN
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	6020A		5			517081	12/17/21 11:18	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516991	12/16/21 13:40	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			517081	12/17/21 11:05	DSH	TAL CAN

Lab Chronicle

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-2C
Lab Sample ID: 280-156736-4
Date Collected: 12/09/21 10:30
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			1.0 mL	1.0 mL	516839	12/15/21 09:23	SHB	TAL CAN
Dissolved	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Dissolved	Analysis	7470A		1			517179	12/17/21 14:46	SLD	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			517179	12/17/21 14:35	SLD	TAL CAN
Total/NA	Analysis	9040B		1			561159	12/17/21 20:13	ECC	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	562460	01/05/22 07:24	SPG	TAL DEN
Total/NA	Analysis	9056A		5	10 mL	10 mL	562460	01/05/22 07:39	SPG	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	562460	01/05/22 07:54	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	560728	12/15/21 09:20	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	560866	12/16/21 08:46	ABW	TAL DEN

Client Sample ID: W-3B
Lab Sample ID: 280-156736-5
Date Collected: 12/10/21 11:30
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6010C		5			516982	12/16/21 12:44	KLC	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			516991	12/16/21 13:29	DSH	TAL CAN
Total Recoverable	Prep	3005A			50 mL	50 mL	516830	12/15/21 14:00	SHB	TAL CAN
Total Recoverable	Analysis	6020A		5			517081	12/17/21 11:13	DSH	TAL CAN
Total/NA	Prep	7470A			50 mL	50 mL	516843	12/15/21 14:00	SHB	TAL CAN
Total/NA	Analysis	7470A		1			517179	12/17/21 14:37	SLD	TAL CAN
Total/NA	Analysis	9040B		1			561159	12/17/21 20:09	ECC	TAL DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	562553	01/05/22 16:36	SPG	TAL DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	562460	01/05/22 08:08	SPG	TAL DEN
Total/NA	Analysis	9056A		200	10 mL	10 mL	562460	01/05/22 08:38	SPG	TAL DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	560864	12/16/21 08:42	ABW	TAL DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	560729	12/15/21 09:25	ABW	TAL DEN

Laboratory References:
TAL CAN = Eurofins Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396
TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-156736-1
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-23

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
9040B		Ground Water	Temperature
9040B		Water	Temperature

Laboratory: Eurofins Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	12-31-21
Georgia	State	4062	02-23-22
Illinois	NELAP	200004	07-31-22
Iowa	State	421	06-01-23
Kansas	NELAP	E-10336	04-30-22
Kentucky (UST)	State	112225	02-23-22
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	039-999-348	12-27-21
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	11-06-22
New York	NELAP	10975	03-31-22
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-22
Texas	NELAP	T104704517-21-14	08-31-22
Virginia	NELAP	11570	09-14-22
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-21-21

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

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Client Information	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 303-508-1109	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:

Address: 1670 Broadway Suite 3400	Due Date Requested:
City: Denver	TAT Requested (days):
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No
Phone: 734-263-7138(Tel)	PO #: DEN-021
Email: Molly.Reeves@hdrinc.com	WO #:
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:

Analysis Requested

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Dissolved Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D			
	8/21	1100	G	Water			X	X	X	X			
	8/21	1400	G	Water			X	X	X	X			
	12/1	1600	G	W			X	X	X				
	12/9/21	1030	G	W			X	X	X				
	12/10/21	1130	G	W			X	X	X	X			

280-156736 Chain of Custody

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	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time: 12/10/21 1610	Company HDR	Received by:	Date/Time: 12/10/2021 1610	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 0.5 IR9 CF -0.1

Ver: 01/16/2019

Eurofins TestAmerica, Denver
4955 Yarrow Street
Arvada, CO 80002
Phone: 303-736-0100 Fax: 303-431-7171

3.1/3.2

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-597767.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin: Colorado	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD - A2LA		Job #: 280-156736-1
Address: 4101 Shuffel Street NW, ,	Due Date Requested: 1/3/2022			
City: North Canton	TAT Requested (days):			
State, Zip: OH, 44720				
Phone: 330-497-9396(Tel) 330-497-0772(Fax)	PO #:			
Email:	WO #:			
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376			
Site: Xcel Energy CCR - Comanche Station	SSOW#:			

Analysis Requested

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, 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, Z - other (specify)

Other:

W19 561

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)	6020A/3005A 13 Total Metals (w/collision cell) - SUB	6010C/3005A (MOD) Boron	7470A/7470A_Prep Mercury	6010C/FILTRATION (MOD) Boron	6020A/FILTRATION 13 Total Metals (w/collision cell) - SUB	7470A/FILTRATION Mercury	Total Number of containers	Special Instructions/Note:
			Preservation Code:											
W-1 (280-156736-1)	12/8/21	11:00 Mountain		Water			X	X	X				1	Use Collision Cell
MW-7 (280-156736-2)	12/8/21	14:30 Mountain		Water			X	X	X				1	Use Collision Cell
W-6B (280-156736-3)	12/9/21	16:00 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-2C (280-156736-4)	12/9/21	10:30 Mountain		Water			X	X	X	X	X	X	2	Use Collision Cell
W-3B (280-156736-5)	12/10/21	11:30 Mountain		Water			X	X	X				1	Use Collision Cell

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out 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 TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
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:	Date/Time:	Company	Received by:	Date/Time:	Company
	12-13-21 1219	ETDEN		12-14-21 1630	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

1/10/2022

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : [redacted]

Client ETA Site Name _____ Cooler unpacked by: Matt

Cooler Received on 12-14-21 Opened on 12-14-21

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 2 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 3.1 °C Corrected Cooler Temp. 3.2 °C

IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	(No)
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y(N), # of containers (Y)N), and sample type of grab/comp(Y(N))?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	(Yes)	No
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC157842**
14. Were VOAs on the COC?	Yes	No
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	(No) NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156736-1

Login Number: 156736
List Number: 1
Creator: Lee, Jerry

List Source: Eurofins Denver

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.	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	

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ANALYTICAL REPORT

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Tel: (303)736-0100

Laboratory Job ID: 280-156736-2
Client Project/Site: Xcel Energy GW CCR Monitoring - Comanche

For:
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Attn: Molly Reeves

Danielle Harrington

Authorized for release by:
1/19/2022 12:29:14 PM

Danielle Harrington, Project Manager II
(303)736-0176
Danielle.Harrington@Eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Qualifiers

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

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

Job ID: 280-156736-2

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-156736-2

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT
The samples were received on 12/10/2021; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.4 C.

RADIUM-226 (GFPC)
The following samples were prepared at a reduced aliquot due to Matrix: W-1 (280-156736-1), MW-7 (280-156736-2), W-6B (280-156736-3), W-2C (280-156736-4) and W-3B (280-156736-5).

Radium 228 batch 543544: The LCS recovered at (137%). The limits in our LIMS system at 75-125 reflect the requirements of a regulatory agency that represents a large amount of our work. However the samples associated with this LCS are not from this agency and are therefore held to our in-house statistical limits of (61-138%) per method requirements. The LCS passes, no further action is required

The Method 9315 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

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

RADIUM-228
The following samples were prepared at a reduced aliquot due to Matrix: W-1 (280-156736-1), MW-7 (280-156736-2), W-6B (280-156736-3), W-2C (280-156736-4) and W-3B (280-156736-5).

The Method 9320 MS/MSD could not be performed for this batch, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable LCS/LCSD analysis data.

Radium-228 was detected in method blank MB 160-543544/23-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

RADIUM-226/RADIUM-228 (GFPC)
No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 280-156736-2 (Continued)

Laboratory: Eurofins Denver (Continued)

Detection Summary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1 — Lab Sample ID: 280-156736-1

No Detections.

Client Sample ID: MW-7 — Lab Sample ID: 280-156736-2

No Detections.

Client Sample ID: W-6B — Lab Sample ID: 280-156736-3

No Detections.

Client Sample ID: W-2C — Lab Sample ID: 280-156736-4

No Detections.

Client Sample ID: W-3B — Lab Sample ID: 280-156736-5

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL
Ra226_Ra228	Combined Radium-226 and Radium-228	TAL-STL	TAL SL
PrecSep_0	Preparation, Precipitate Separation	None	TAL SL
PrecSep-21	Preparation, Precipitate Separation (21-Day In-Growth)	None	TAL SL

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-STL = TestAmerica Laboratories, St. Louis, Facility Standard Operating Procedure.

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-156736-1	W-1	Water	12/08/21 11:00	12/10/21 16:10
280-156736-2	MW-7	Ground Water	12/08/21 14:30	12/10/21 16:10
280-156736-3	W-6B	Ground Water	12/09/21 16:00	12/10/21 16:10
280-156736-4	W-2C	Water	12/09/21 10:30	12/10/21 16:10
280-156736-5	W-3B	Water	12/10/21 11:30	12/10/21 16:10

Method: 9315 - Radium-226 (GFPC)

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.336		0.235	0.237	1.00	0.328	pCi/L	12/23/21 12:55	01/17/22 11:19	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		40 - 110	12/23/21 12:55	01/17/22 11:19	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.397		0.224	0.227	1.00	0.277	pCi/L	12/23/21 12:55	01/17/22 13:38	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110	12/23/21 12:55	01/17/22 13:38	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	2.62		0.482	0.536	1.00	0.296	pCi/L	12/23/21 12:55	01/17/22 13:38	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	12/23/21 12:55	01/17/22 13:38	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.42		0.367	0.389	1.00	0.305	pCi/L	12/23/21 12:55	01/17/22 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110	12/23/21 12:55	01/17/22 13:39	1

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	3.49		0.561	0.643	1.00	0.364	pCi/L	12/23/21 12:55	01/17/22 13:39	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110	12/23/21 12:55	01/17/22 13:39	1

Method: 9320 - Radium-228 (GFPC)

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.48		0.797	0.897	1.00	0.759	pCi/L	12/23/21 13:53	01/13/22 09:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	81.3		40 - 110	12/23/21 13:53	01/13/22 09:13	1
Y Carrier	80.7		40 - 110	12/23/21 13:53	01/13/22 09:13	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	3.53		0.742	0.810	1.00	0.825	pCi/L	12/23/21 13:53	01/13/22 09:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	83.8		40 - 110	12/23/21 13:53	01/13/22 09:13	1
Y Carrier	81.9		40 - 110	12/23/21 13:53	01/13/22 09:13	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	10.5		1.08	1.45	1.00	0.795	pCi/L	12/23/21 13:53	01/13/22 09:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110	12/23/21 13:53	01/13/22 09:13	1
Y Carrier	81.5		40 - 110	12/23/21 13:53	01/13/22 09:13	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.15		0.756	0.847	1.00	0.768	pCi/L	12/23/21 13:53	01/13/22 09:13	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	89.6		40 - 110	12/23/21 13:53	01/13/22 09:13	1
Y Carrier	79.6		40 - 110	12/23/21 13:53	01/13/22 09:13	1

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	10.1		1.12	1.45	1.00	0.925	pCi/L	12/23/21 13:53	01/13/22 09:13	1

Method: 9320 - Radium-228 (GFPC) (Continued)

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	88.1		40 - 110	12/23/21 13:53	01/13/22 09:13	1
Y Carrier	78.9		40 - 110	12/23/21 13:53	01/13/22 09:13	1

Method: Ra226_Ra228 - Combined Radium-226 and Radium-228

Client Sample ID: W-1
Date Collected: 12/08/21 11:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-1
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	4.82		0.831	0.928	5.00	0.759	pCi/L		01/18/22 14:38	1

Client Sample ID: MW-7
Date Collected: 12/08/21 14:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-2
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	3.93		0.775	0.841	5.00	0.825	pCi/L		01/18/22 14:38	1

Client Sample ID: W-6B
Date Collected: 12/09/21 16:00
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-3
Matrix: Ground Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	13.1		1.18	1.55	5.00	0.795	pCi/L		01/18/22 14:38	1

Client Sample ID: W-2C
Date Collected: 12/09/21 10:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-4
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	5.56		0.840	0.932	5.00	0.768	pCi/L		01/18/22 14:38	1

Client Sample ID: W-3B
Date Collected: 12/10/21 11:30
Date Received: 12/10/21 16:10
Lab Sample ID: 280-156736-5
Matrix: Water

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Combined Radium 226 + 228	13.6		1.25	1.59	5.00	0.925	pCi/L		01/18/22 14:38	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-543537/23-A
Matrix: Water
Analysis Batch: 546760

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543537

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.1262	U	0.162	0.163	1.00	0.270	pCi/L	12/23/21 12:55	01/17/22 13:41	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.7*		*40 - 110*	*12/23/21 12:55*	*01/17/22 13:41*	*1*

Lab Sample ID: LCS 160-543537/1-A
Matrix: Water
Analysis Batch: 546760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543537

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-226			22.7	21.38		2.32	1.00	0.256	pCi/L	94	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.7*		*40 - 110*

Lab Sample ID: LCSD 160-543537/2-A
Matrix: Water
Analysis Batch: 546760

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 543537

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226			22.7	21.49		2.38	1.00	0.323	pCi/L	95	75 - 125	0.02	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*79.0*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-543544/23-A
Matrix: Water
Analysis Batch: 546234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 543544

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.7190		0.269	0.277	1.00	0.366	pCi/L	12/23/21 13:53	01/13/22 09:15	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.7*		*40 - 110*	*12/23/21 13:53*	*01/13/22 09:15*	*1*
Y Carrier	*76.6*		*40 - 110*	*12/23/21 13:53*	*01/13/22 09:15*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-543544/1-A
Matrix: Water
Analysis Batch: 546233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 543544

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits		
Radium-228			8.97	12.27		1.36	1.00	0.355	pCi/L	137	75 - 125		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*93.7*		*40 - 110*
Y Carrier	*81.1*		*40 - 110*

Lab Sample ID: LCSD 160-543544/2-A
Matrix: Water
Analysis Batch: 546233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 543544

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			8.97	11.25		1.30	1.00	0.399	pCi/L	125	75 - 125	0.38	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*79.0*		*40 - 110*
Y Carrier	*81.9*		*40 - 110*

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Prep Batch: 543537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	PrecSep-21	
280-156736-2	MW-7	Total/NA	Ground Water	PrecSep-21	
280-156736-3	W-6B	Total/NA	Ground Water	PrecSep-21	
280-156736-4	W-2C	Total/NA	Water	PrecSep-21	
280-156736-5	W-3B	Total/NA	Water	PrecSep-21	
MB 160-543537/23-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-543537/1-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
LCSD 160-543537/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep-21	

Prep Batch: 543544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-156736-1	W-1	Total/NA	Water	PrecSep_0	
280-156736-2	MW-7	Total/NA	Ground Water	PrecSep_0	
280-156736-3	W-6B	Total/NA	Ground Water	PrecSep_0	
280-156736-4	W-2C	Total/NA	Water	PrecSep_0	
280-156736-5	W-3B	Total/NA	Water	PrecSep_0	
MB 160-543544/23-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-543544/1-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-543544/2-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	

Lab Chronicle

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1
Lab Sample ID: 280-156736-1
Date Collected: 12/08/21 11:00
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.21 mL	1.0 g	543537	12/23/21 12:55	BMP	TAL SL
Total/NA	Analysis	9315		1			546760	01/17/22 11:19	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.21 mL	1.0 g	543544	12/23/21 13:53	BMP	TAL SL
Total/NA	Analysis	9320		1			546233	01/13/22 09:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546960	01/18/22 14:38	EMH	TAL SL

Client Sample ID: MW-7
Lab Sample ID: 280-156736-2
Date Collected: 12/08/21 14:30
Matrix: Ground Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.53 mL	1.0 g	543537	12/23/21 12:55	BMP	TAL SL
Total/NA	Analysis	9315		1			546760	01/17/22 13:38	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.53 mL	1.0 g	543544	12/23/21 13:53	BMP	TAL SL
Total/NA	Analysis	9320		1			546233	01/13/22 09:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546960	01/18/22 14:38	EMH	TAL SL

Client Sample ID: W-6B
Lab Sample ID: 280-156736-3
Date Collected: 12/09/21 16:00
Matrix: Ground Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.51 mL	1.0 g	543537	12/23/21 12:55	BMP	TAL SL
Total/NA	Analysis	9315		1			546760	01/17/22 13:38	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.51 mL	1.0 g	543544	12/23/21 13:53	BMP	TAL SL
Total/NA	Analysis	9320		1			546233	01/13/22 09:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546960	01/18/22 14:38	EMH	TAL SL

Client Sample ID: W-2C
Lab Sample ID: 280-156736-4
Date Collected: 12/09/21 10:30
Matrix: Water
Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.42 mL	1.0 g	543537	12/23/21 12:55	BMP	TAL SL
Total/NA	Analysis	9315		1			546760	01/17/22 13:39	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.42 mL	1.0 g	543544	12/23/21 13:53	BMP	TAL SL
Total/NA	Analysis	9320		1			546233	01/13/22 09:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546960	01/18/22 14:38	EMH	TAL SL

Lab Chronicle

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-3B
Lab Sample ID: 280-156736-5

Date Collected: 12/10/21 11:30
Matrix: Water

Date Received: 12/10/21 16:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PrecSep-21			500.35 mL	1.0 g	543537	12/23/21 12:55	BMP	TAL SL
Total/NA	Analysis	9315		1			546760	01/17/22 13:39	FLC	TAL SL
Total/NA	Prep	PrecSep_0			500.35 mL	1.0 g	543544	12/23/21 13:53	BMP	TAL SL
Total/NA	Analysis	9320		1	1.0 mL	1.0 mL	546233	01/13/22 09:13	FLC	TAL SL
Total/NA	Analysis	Ra226_Ra228		1			546960	01/18/22 14:38	EMH	TAL SL

Laboratory References:

TAL SL = Eurofins St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Accreditation/Certification Summary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Laboratory: Eurofins St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	20-001	05-06-22
ANAB	Dept. of Defense ELAP	L2305	04-06-22
ANAB	Dept. of Energy	L2305.01	04-06-22
ANAB	ISO/IEC 17025	L2305	04-06-22
Arizona	State	AZ0813	12-08-22
California	Los Angeles County Sanitation Districts	10259	06-30-22
California	State	2886	06-30-21 *
Connecticut	State	PH-0241	03-31-23
Florida	NELAP	E87689	06-30-22
HI - RadChem Recognition	State	n/a	06-30-22
Illinois	NELAP	200023	11-30-22
Iowa	State	373	12-01-22
Kansas	NELAP	E-10236	10-31-22
Kentucky (DW)	State	KY90125	01-01-22 *
Kentucky (WW)	State	KY90125 (Permit KY0004049)	12-31-22
Louisiana	NELAP	04080	06-30-22
Louisiana (DW)	State	LA011	12-31-22
Maryland	State	310	09-30-22
MI - RadChem Recognition	State	9005	06-30-22
Missouri	State	780	06-30-22
Nevada	State	MO000542020-1	07-31-22
New Jersey	NELAP	MO002	06-30-22
New York	NELAP	11616	04-01-22
North Dakota	State	R-207	06-30-22
NRC	NRC	24-24817-01	12-31-22
Oklahoma	State	9997	08-31-22
Oregon	NELAP	4157	09-01-22
Pennsylvania	NELAP	68-00540	03-01-22
South Carolina	State	85002001	06-30-22
Texas	NELAP	T104704193	07-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00028	03-11-23
Utah	NELAP	MO000542021-14	08-01-22
Virginia	NELAP	10310	06-14-22
Washington	State	C592	08-30-22
West Virginia DEP	State	381	10-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler:	Lab PM: Harrington, Danielle M	Carrier Tracking No(s):	COC No: 280-110862-32017.2
Client Contact: Molly Reeves	Phone: 303-508-1109	E-Mail: Danielle.Harrington@Eurofinset.com	State of Origin:	Page: Page 2 of 2
Company: HDR Inc	PWSID:			Job #:

Address: 1670 Broadway Suite 3400	Due Date Requested:
City: Denver	TAT Requested (days):
State, Zip: CO, 80202	Compliance Project: Δ Yes Δ No
Phone: 734-263-7138(Tel)	PO #: DEN-021
Email: Molly.Reeves@hdrinc.com	WO #:
Project Name: Xcel Energy GW CCR Monitoring - Comanche	Project #: 28014376
Site:COLORADO Groundwater- CCR (App III and App IV)	SSOW#:

Analysis Requested

Sample Identification	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)	2320B alkalinity, 9040B pH, 9056A_28DChloride, Fluoride, Sulfate	6010C, 6020A, 7470A Total Metlas - Canton	2540D - TSS/2540C TDS	Radium -226 9135 and Radium -228 Method 9320/ Ra2226Ra2228GFPC - ETA St. Louis	Dissolved Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	D	N	D			
	8/21	1100	G	Water			X	X	X	X			
	8/21	1400	G	Water			X	X	X	X			
	12/1	1600	G	W			X	X	X				
	12/9/21	1030	G	W			X	X	X				
	12/10/21	1130	G	W			X	X	X	X			

280-156736 Chain of Custody

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	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ 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:	Date/Time: 12/10/21 1610	Company HDR	Received by:	Date/Time: 12/10/2021 1610	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
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: 0.5 IR9 CF -0.1

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156736-2

Login Number: 156736
List Number: 1
Creator: Lee, Jerry

List Source: Eurofins Denver

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.	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	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-156736-2

Login Number: 156736
List Number: 2
Creator: Johnson, Autumn R

List Source: Eurofins St. Louis
List Creation: 12/14/21 11:37 AM

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.	N/A	
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	

Tracer/Carrier Summary

Client: HDR Inc
Job ID: 280-156736-2
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method: 9315 - Radium-226 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-156736-2	MW-7	83.8
280-156736-3	W-6B	86.9

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
280-156736-1	W-1	81.3
280-156736-4	W-2C	89.6
280-156736-5	W-3B	88.1
LCS 160-543537/1-A	Lab Control Sample	93.7
LCSD 160-543537/2-A	Lab Control Sample Dup	79.0
MB 160-543537/23-A	Method Blank	96.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Ground Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-156736-2	MW-7	83.8	81.9
280-156736-3	W-6B	86.9	81.5

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water — **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
280-156736-1	W-1	81.3	80.7
280-156736-4	W-2C	89.6	79.6
280-156736-5	W-3B	88.1	78.9
LCS 160-543544/1-A	Lab Control Sample	93.7	81.1
LCSD 160-543544/2-A	Lab Control Sample Dup	79.0	81.9
MB 160-543544/23-A	Method Blank	96.7	76.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier