

Alternative Source Determination of Statistically Significant Increases over Background

for Compliance with the Coal Combustion
Residuals (CCR) Rule 257.94(e)(2) and Consent
Agreement No. RCRA-08-2022-0008

Comanche Station Landfill

Public Service Company of Colorado

February 17, 2023

Revised: June 12, 2023



Contents

	Page No.
Certification	iii
1.0 Introduction	4
2.0 Background.....	4
3.0 Evidence for an Alternative Source	8
4.0 Source of Chloride	16
5.0 Summary	21
References	22

Tables

Table 1. Appendix III COIs with SSIs over Background for Landfill Detection Monitoring Event - May 2022	5
Table 2. Chloride concentrations in wells	13
Table 3. Soil Chloride Concentrations and Soil Leachate Concentrations from Borings	18

Figures

Figure 1. Vicinity Map for Comanche Station	6
Figure 2. Comanche Station – CCR Units and Monitoring Well Location Map.....	7
Figure 3. 2013 Existing Conditions Map from the Comanche Ash Disposal Facility Engineering Design and Operations Plan displaying the topographic low area referred to as the existing FEMA storage area.	9
Figure 4. Groundwater Contour Map, May 2022.	10
Figure 5. Groundwater Contour Map, October 2022, with MW-8 and MW-9 wells added.	12
Figure 6. Chloride concentrations in landfill monitoring wells.....	13
Figure 7. Piper diagram of general groundwater quality parameters at some landfill wells.	15
Figure 8. Ash Sample SPLP Concentrations.....	16
Figure 9. Landfill Cell Boundary Map	17
Figure 10. Approximate capture zone for well MW-2B demonstrating that flow from under the natural depression area is part of the MW-2B capture zone.	20

Attachments

- Attachment 1. Boring Logs
- Attachment 2. Laboratory Reports

Certification

Comanche Station Landfill, Alternative Source Demonstration

I hereby certify to the best of my knowledge that this Alternative Source Demonstration was prepared to meet the requirements of Consent Agreement No. RCRA-08-2022-0008 and 40 C.F.R. § 257.94(e)(2).

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



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

12-JUN-2023

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Quinn V. Kilty
Manager, Environmental Services



1.0 Introduction

The U.S. Environmental Protection Agency's (EPA's) final Coal Combustion Residuals (CCR) Rule establishes a comprehensive 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, is owned and operated by Public Service Company of Colorado (PSCo), an Xcel Energy Company (**Figure 1**). Comanche Station has two CCR units subject to the CCR Rule: an impoundment (Bottom Ash Pond) and a landfill (**Figure 2**).

On October 28, 2022, PSCo documented statistically significant increases (SSIs) above the established background values for one Appendix III constituent in three monitoring wells at the landfill. The SSIs were identified after background water quality values were updated in October 2022 and compared to May 2022 detection monitoring results. The SSI at the landfill was observed for chloride in wells MW-1B, MW-2B and MW-5. However, although MW-1B and MW-2B have always been designated as downgradient waste boundary wells, MW-5 was not historically designated as a downgradient well. As the conceptual site model (CSM) for the site has evolved, MW-5 was initially identified as an upgradient well (HDR, 2021). However, when the GMS was updated in July 2022, MW-5 was designated as a water level only well because the groundwater contours in the vicinity of MW-5 did not definitively demonstrate that it was up-gradient of the landfill (HDR, 2022). As discussed in this document, an additional well (MW-9) installed as part of this ASD provides some additional detail on groundwater contours in this area and appear to show a very small portion of the landfill could contribute groundwater flow to MW-5.

The objective of this memorandum is to evaluate if the SSIs observed in the two downgradient wells and MW-5 at the landfill may be attributable to an alternative, non-CCR, source.

2.0 Background

Seven monitoring wells (MW-1B, MW-2B, MW-3, MW-4B, MW-5, MW-6, and MW-7) surround the landfill. The well locations are shown on **Figure 2**. Based on the contours observed in the uppermost groundwater in the weathered shale, wells MW-3, MW-4B, and MW-6 are located upgradient of the landfill and are background wells. The contours for the October 2022 groundwater surface under the landfill are shown in **Figure 5**. The figures consistently show the groundwater flow direction beneath the landfill appears to be generally southeast. Monitoring wells MW-1B, MW-2B, and MW-7 are clearly downgradient of the landfill at the waste boundary.

In the July 5, 2022 Groundwater Monitoring System Certification, well MW-5 was reclassified from an upgradient well to a water level well (**Figure 2**) because the groundwater contours in the vicinity of MW-5 did not definitively demonstrate that it was upgradient of the landfill. Updated groundwater contours incorporating newly installed well MW-9 indicate groundwater from beneath a small portion of the northeast corner of the landfill may flow towards MW-5; however, the gradient from MW-9 towards MW-5 and onward toward the southeast is more significant. PSCo intends to install an additional monitoring well to further define the



groundwater contours west of the landfill to confirm the southeasterly flow direction under the entirety of the existing landfill footprint.

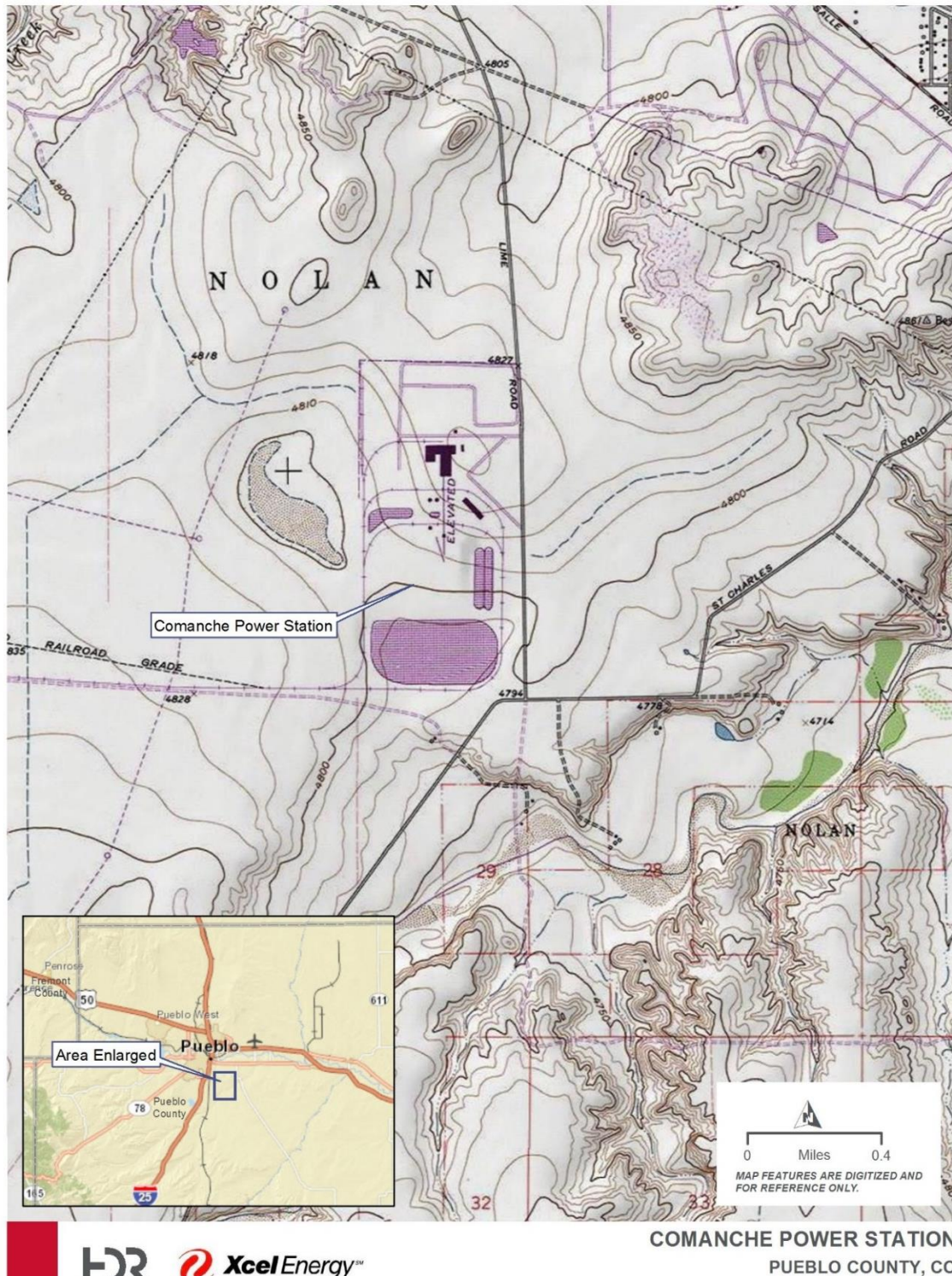
As described in the October 28, 2022 letter to EPA, Comanche Station Notification of Updated Groundwater Background Values, Statistically Significant Increases and Concentration Exceedances Comanche Station Consent Agreement and Final Order RCRA-08-2022-0008, chloride SSIs were identified at the landfill in MW-1B, MW-2B and MW-5 (Xcel, 2022). The background threshold value (upper prediction limit) for chloride, based on data pooled from wells MW-3, MW-4B, and MW-6, is 390 milligrams per liter (mg/L), and the detection monitoring event concentrations in the wells that triggered the SSIs are in **Table 1**.

Table 1. Appendix III COIs with SSIs over Background for Landfill Detection Monitoring Event - May 2022		
Appendix III Constituent		Chloride (mg/L)
BTV (UPL)*		390
Monitoring Well May 2022 Detection Monitoring Event Concentration	MW-1B	400
	MW-2B	560
	MW-5	1,200

*Background Statistics updated in October 2022.

Although SSIs are based on May 2022 compliance sampling data, the triggering event for the SSI determination was the update to background statistics updated in October 2022. PSCo determined it was not necessary to collect a confirmation sample because the concentrations of chloride were consistent over the period of sampling for the wells. Therefore, the SSI triggered either completion of an Alternate Source Demonstration (ASD) or initiation of Assessment Monitoring.

At the end of 2022, PSCo initiated an ASD pursuant to 40 C.F.R. § 257.93(e)(2). There is potential for an alternate source of chloride from the north that could be contributing to concentrations at MW-5, and to the further downgradient waste boundary wells MW-2B and MW-1B; and there is potential for an alternate source of chloride at MW-2B from the north or northeast that could be contributing to concentrations at both MW-2B and MW-1B.



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Copyright © 2013 National Geographic Society, i-cubed

Figure 1. Vicinity Map for Comanche Station

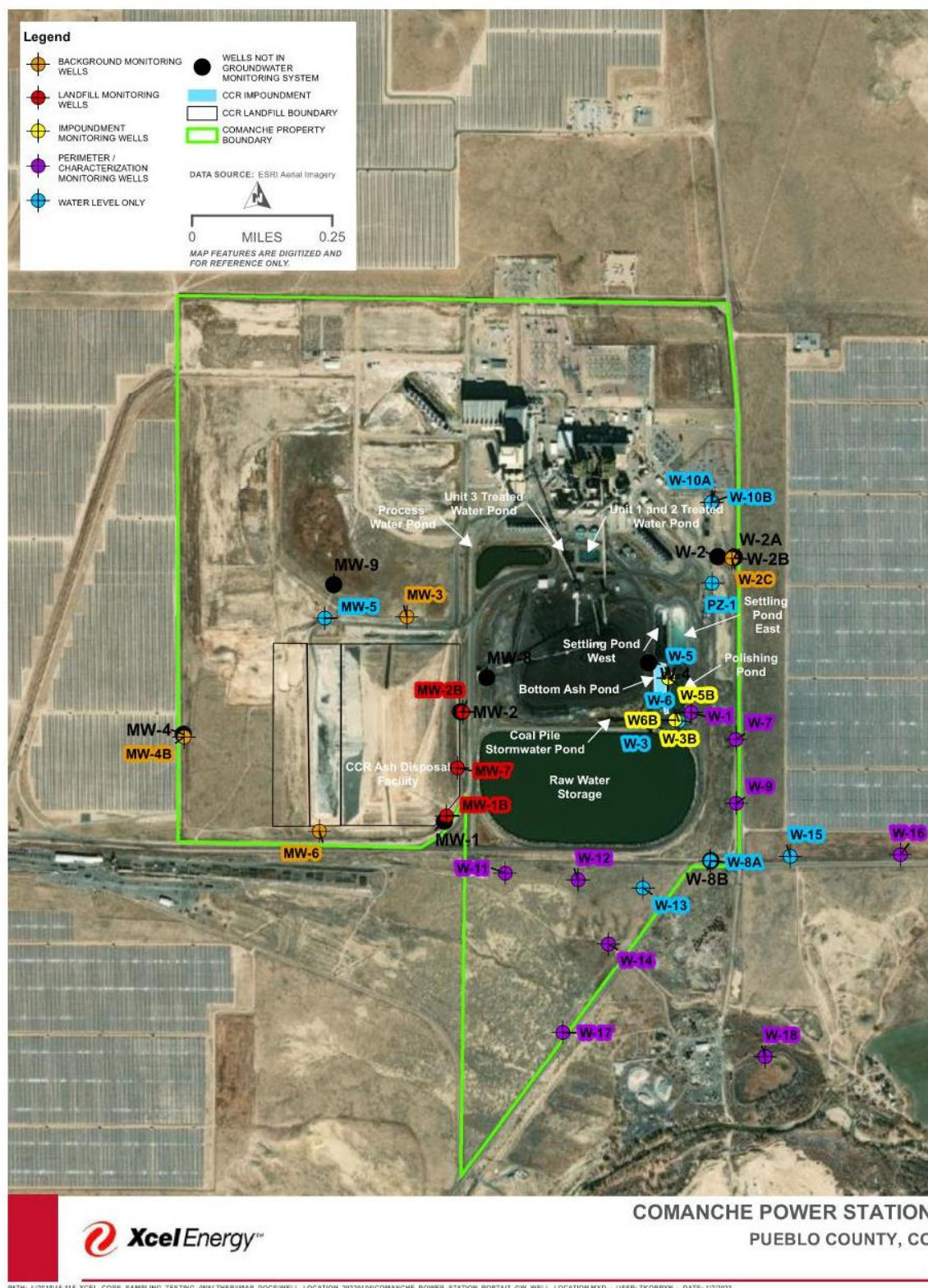


Figure 2. Comanche Station – CCR Units and Monitoring Well Location Map



3.0 Evidence for an Alternative Source

The landfill sits on a high point between the St. Charles River and Salt Creek drainages. The facility is not within the floodplain of either drainage; however, an unnamed stormwater ponding area is present immediately north of the footprint of the existing landfill cells. This natural depression is readily observed on topographic maps (**Figure 1**), in aerial photographs (**Figure 2**), and on the existing conditions sheet from the 2018 Engineering Design and Operations Plan (EDOP) (**Figure 3**). This area collects precipitation from the upland areas between the St. Charles River and Salt Creek. It intermittently holds surface water and is dry between precipitation events. The ponding area is designated a Special Flood Hazard Area (SFHA) by the Federal Emergency Management Agency (FEMA). An SFHA is an area that will be inundated by a storm having a 1% chance of being equaled or exceeded in any given year.

As shown in the May 2022 groundwater contour map in **Figure 4**, groundwater at well MW-5 and well MW-2B is only partially from under a small area of the landfill. Both wells appeared at that time to get the majority of groundwater flow contribution from areas not under the CCR landfill. The capture zone for MW-5 is only in small part from under the footprint of the landfill and in large part from the west, northwest, and north, including the location of the SFHA natural depression area. The capture zone for MW-2B is partially from under the footprint of the landfill and is also capturing groundwater from the northeast, including the location of the coal pile. Therefore, the potential for the chloride in groundwater observed at the wells to be sourced from somewhere other than the ash is evaluated herein.

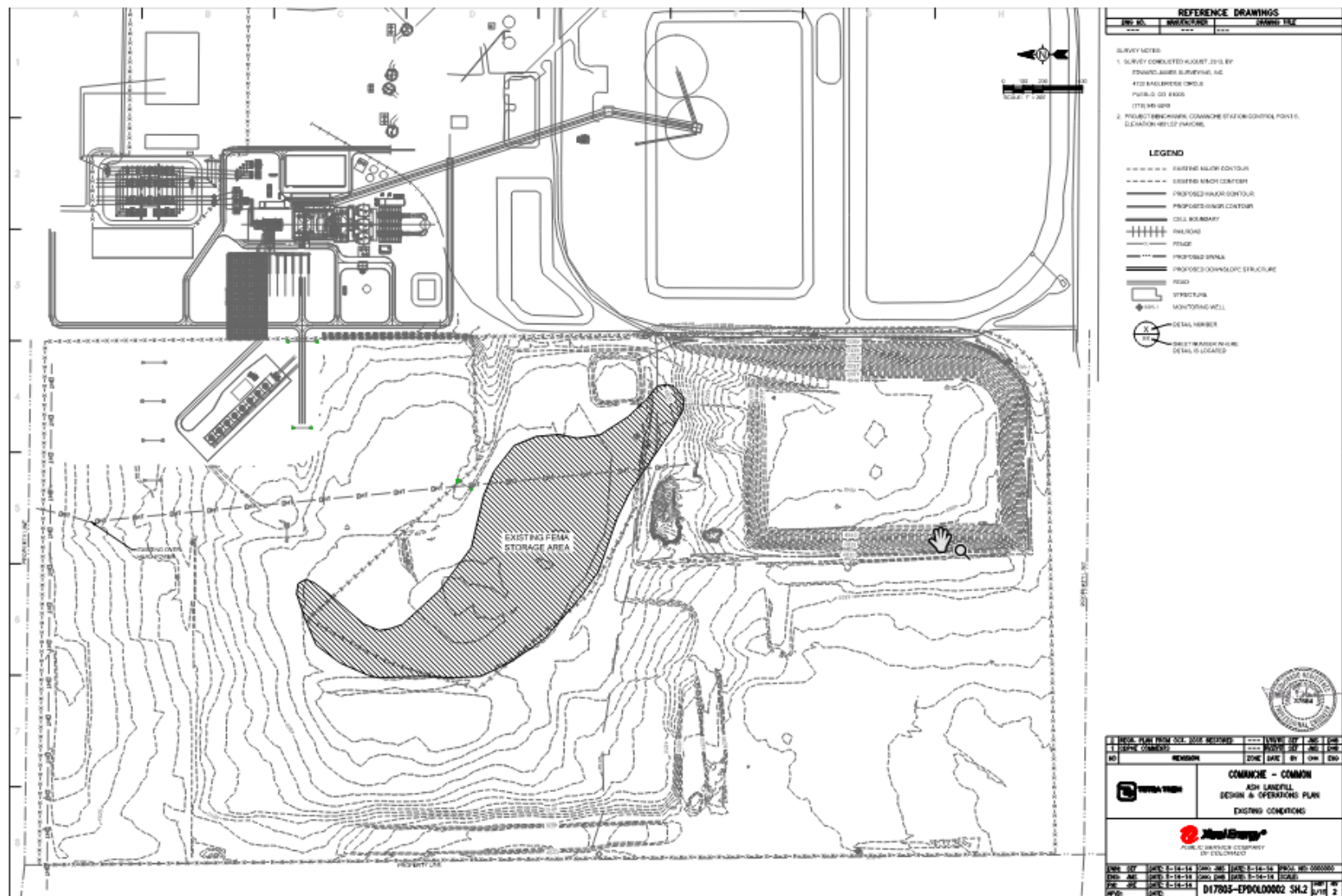


Figure 3. 2013 Existing Conditions Map from the Comanche Ash Disposal Facility Engineering Design and Operations Plan displaying the topographic low area referred to as the existing FEMA storage area.

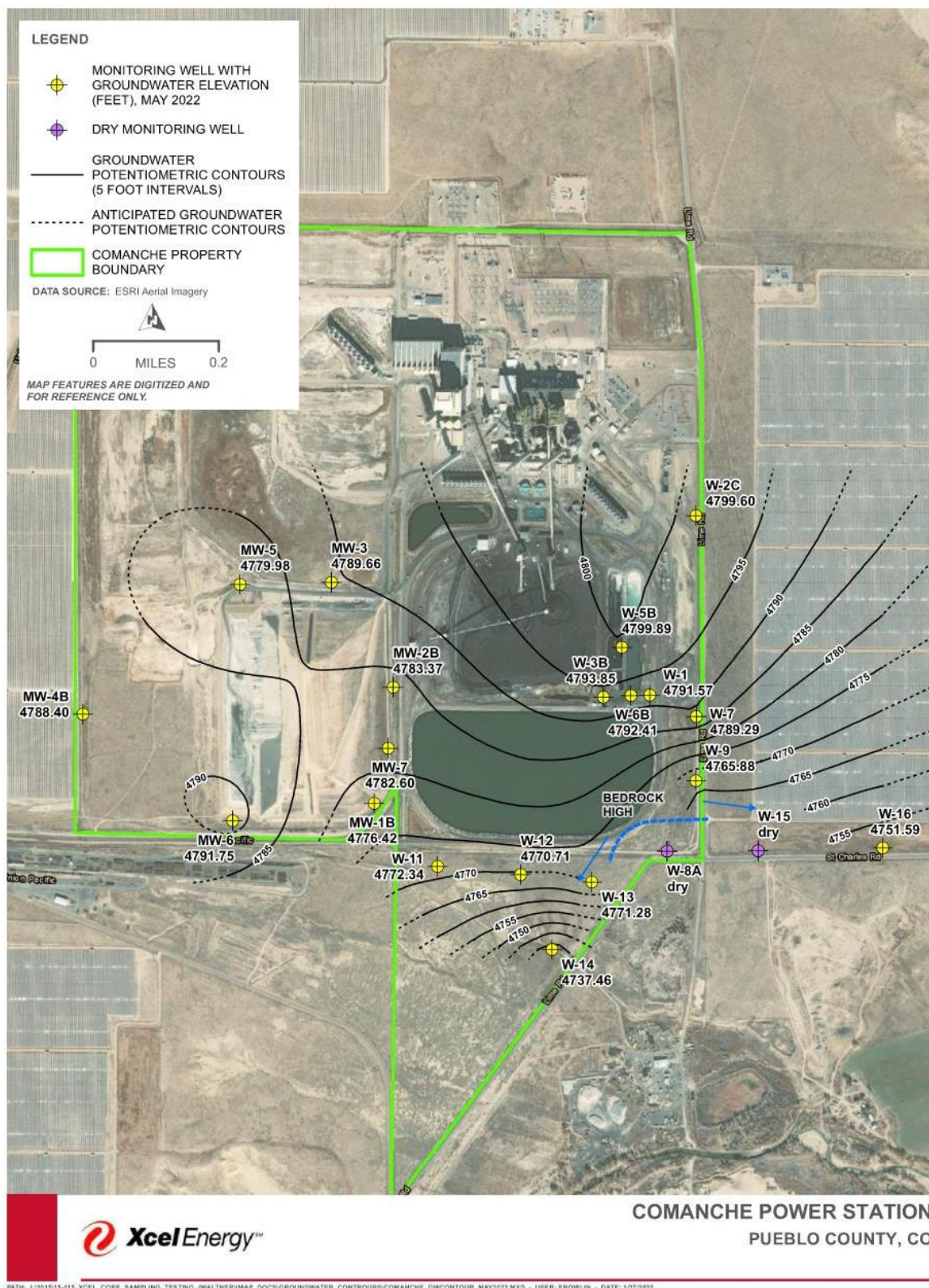


Figure 4. Groundwater Contour Map, May 2022.



Monitoring wells MW-8 and MW-9 were installed November 7-8, 2022 (**Figures 2 and 5**). These wells were located to be upgradient of wells MW-2B and MW-5, respectively to evaluate groundwater elevations and chloride concentrations. Well MW-9 was located to be upgradient of MW-5 and within the footprint of the SFHA. Well MW-8 was located to be upgradient of MW-2B and downgradient of the coal pile. Both wells are 2-inch PVC wells screened entirely within the weathered shale. The well construction and geologic boring logs are provided in Attachment 1. The wells were developed after installation. These wells were sampled December 8-9, 2022 and analyzed for all Appendix III and IV parameters plus TSS, alkalinity, magnesium, sodium, and potassium. The laboratory report is provided in **Attachment 2**.

The groundwater contour map was updated to incorporate the groundwater elevations in the new monitoring wells (**Figure 5**). The groundwater elevation at MW-9 is approximately 10 feet higher than MW-5 and confirms that MW-9 is upgradient of MW-5 and that the groundwater quality observed at MW-9 contributes to that observed at MW-5 and beneath the landfill towards the downgradient waste boundary monitoring wells (MW-1B, MW-2B, and MW-7). Well MW-8 was sited in anticipation of being upgradient of MW-2B; however, based on the December 9, 2022 water level, the groundwater elevation in well MW-8 is a couple of feet lower in elevation than MW-2B. This appears to be a small anomaly in the site-wide flow and likely reflects a bedrock low point at MW-8. Because of the sitewide groundwater elevations the groundwater at MW-2B still appears to be capturing groundwater flows from northeast, north, and northwest (**Figure 5**).

The chloride concentrations from the new monitoring wells and the existing landfill monitoring wells are in **Table 2**. The chloride concentrations for the landfill wells and the new MW-8 and MW-9 wells are also graphed in **Figure 6**. The December 2022 chloride concentration at MW-9 was 1,400 mg/L, which is similar to the concentrations of chloride observed at MW-5. The December 2022 chloride concentration at MW-8 was 600 mg/L, which is higher than the chloride concentrations at all of the landfill wells other than MW-5. These chloride concentrations at MW-8 and MW-9 were confirmed in the March 1, 2023 sample event.

As shown on the attached potentiometric surface maps, the groundwater flow direction beneath the landfill is generally southeast and if the source of the chloride SSI in groundwater was the ash at the landfill, the highest concentrations would be expected at downgradient waste boundary wells MW-1B and MW-7, because they are the downgradient wells with the largest capture zone under the landfill (**Figure 5**). However, this is not observed, and the chloride concentration in MW-5 is consistently at least three times higher than the other downgradient landfill wells (MW-1B, MW-2B, and MW-7). Additionally, MW-5 has the smallest capture zone under the landfill, while MW-1B with the largest capture zone under the landfill has one of the lowest concentrations of chloride. If the source of the chloride in MW-5 is the SFHA, as demonstrated in this document, it would make sense for the concentrations of chloride to decrease downgradient of the SFHA, as observed in MW-1B, MW-2B, and MW-7.

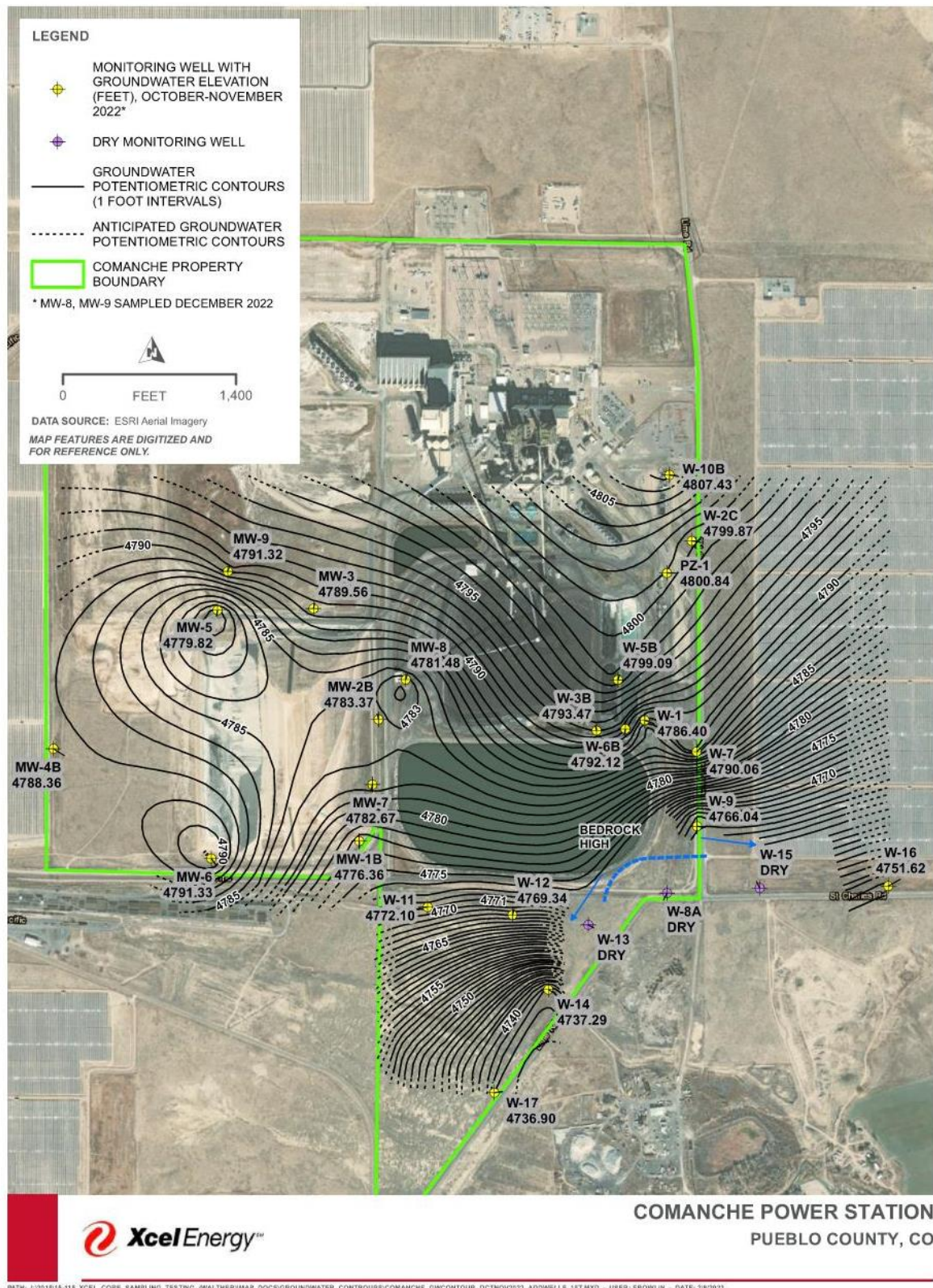


Figure 5. Groundwater Contour Map, October 2022, with MW-8 and MW-9 wells added.



Table 2. Chloride concentrations in wells						
	Monitoring Well	Background Chloride Concentration (MW-3, MW-4B, and MW-6 Upper Prediction Limit) (mg/L)	Chloride from May 3-5, 2022 Detection Monitoring Event (mg/L)	Chloride from December 8-9, 2022 ASD Monitoring Event (mg/L)	Chloride from March 1, 2023 ASD Monitoring Event (mg/L)	Average Chloride (mg/L)
Landfill Area Wells	MW-5	390	1,200	NS	NS	1,648
	MW-9		Not installed yet	1,400	1,400	1,400
	MW-2B		560	NS	NS	535
	MW-8		Not installed yet	600	560	580
	MW-1B		400	NS	NS	375
	MW-7		320	NS	NS	311
Upgradient Bottom Ash Pond Wells for Reference	W-2C (Bottom Ash Pond Background Well)	1,000	930	NS	NS	802
	W-10B (Upgradient well)	No UPL	1,000	NS	NS	935

NS=no sample

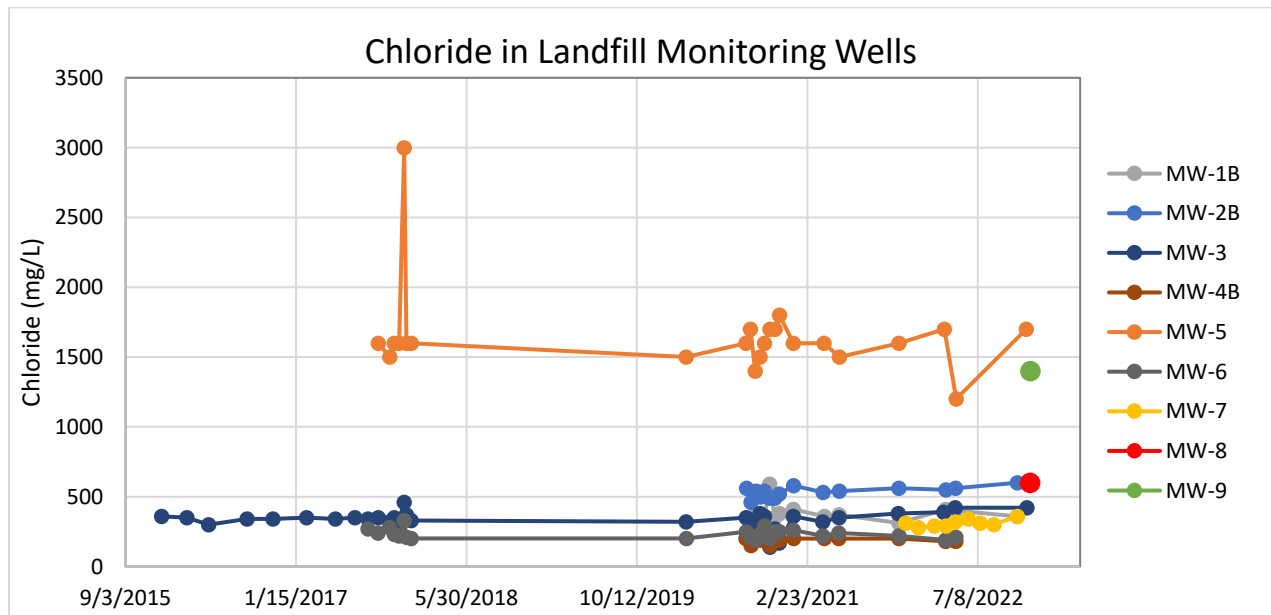


Figure 6. Chloride concentrations in landfill monitoring wells.



The downgradient well with the largest capture zone under the landfill, MW-1B in the southeast corner, was found to have an SSI for the May 2022 detection monitoring event with an observed concentration (400 mg/L) that was only slightly above the background UPL (390 mg/L). The concentrations of chloride at MW-1B are very similar to upgradient/background well MW-3, and on several dates the chloride concentrations in MW-1B are the same as or lower than in MW-3. (**Figure 6**). If the ash landfill were the source of the chloride concentration, we would expect to see a higher concentration of chloride relative to the upgradient well and the other downgradient wells. This slight of an exceedance over the background value would only be expected if there were no other potential sources of chloride than the ash in the upgradient direction of MW-1B; which is not the case at this site. Additionally, there is another source in the upgradient direction, the natural drainage/stormwater infiltration area as demonstrated by the concentration of chloride at MW-9.

If the landfill ash were the source of the chloride SSIs, the concentrations of chloride may be expected to be increasing over time. However, this is not observed, as there is no increasing trend of chloride in MW-1B, MW-2B, MW-5, or MW-7 (**Figure 6**). In addition, if the landfill ash were the source of chloride, well MW-7 would also be expected to have an SSI for chloride, which is not observed. Concentrations of chloride at MW-7 are between 280 and 340 mg/L.

Figure 7 is a Piper diagram of general groundwater quality parameters at landfill wells, which indicates that the primary end members of groundwater quality at the landfill appear to be wells MW-3 and MW-8 at one end and at MW-9 at the other end, and the other wells appear as a mixture of the two with their placement on the piper diagram between those points. This interpretation is consistent with the groundwater contour map.

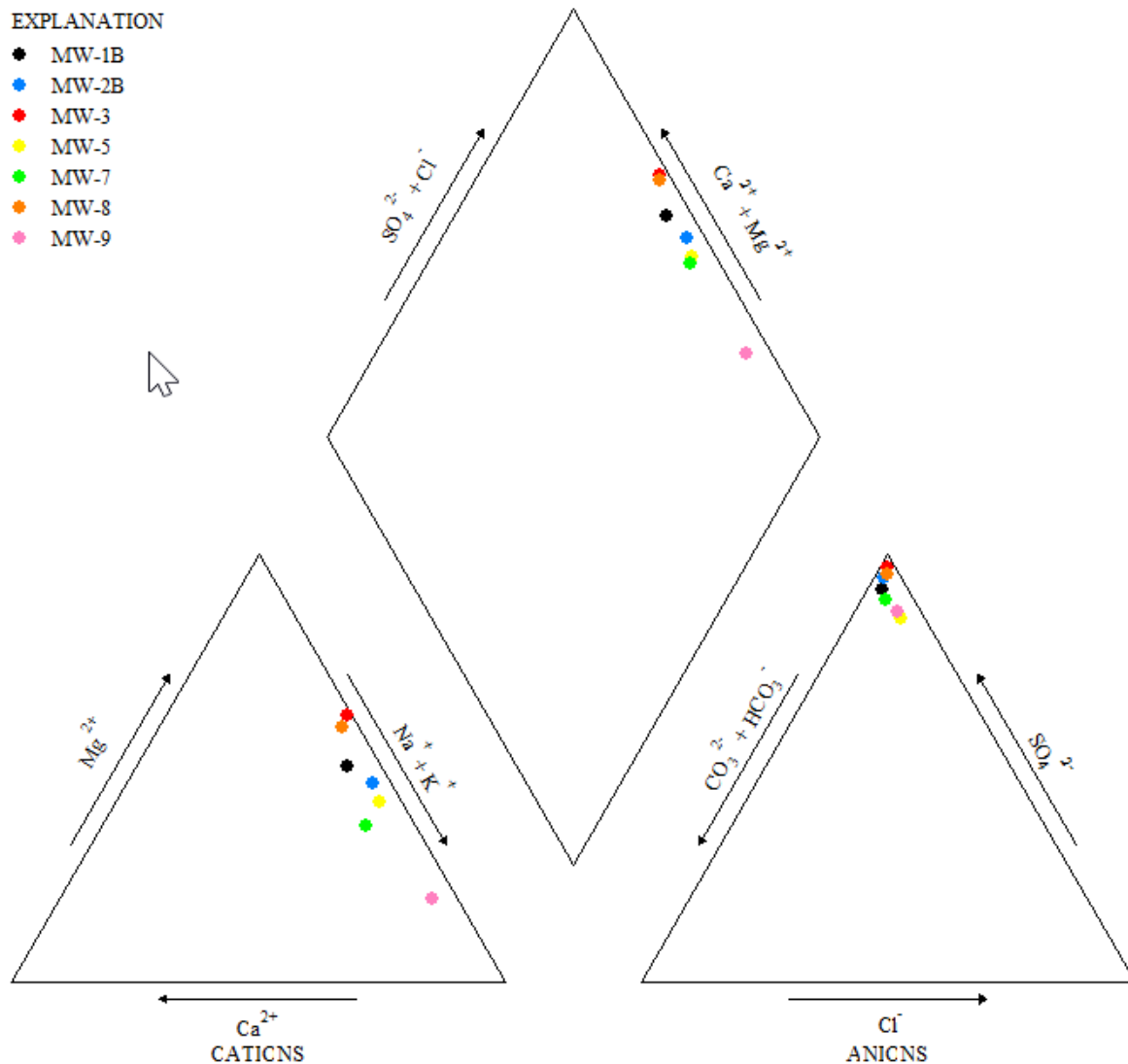


Figure 7. Piper diagram of general groundwater quality parameters at some landfill wells.



4.0 Source of Chloride

The ash from the landfill at Comanche station was analyzed and was reported in the Ash Disposal Facility EDOP. **Figure 8** is a copy of the source characterization data table in the EDOP (Tetra Tech, 2013). The landfill ash sample Synthetic Precipitation Leaching Procedure (SPLP) chloride concentration is 0.84 mg/L, which is three to four orders of magnitude less than the well concentrations that have SSIs. This very low concentration of chloride in the ash leachate does not indicate the ash has enough chloride to be considered a source of the chloride.

Table 1. Comanche Station Comparison of Average Constituent Concentration Results

Sample ID:		ADF Stormwater Pond Average (1987-2011)		MW-3 Average (1987-2012)		Ash Sample SPLP Concentration
Analyte	Units	Concentration	Number of Samples	Concentration	Number of Samples	Concentration
Total Arsenic	mg/L	0.047	4	0.119	21	<0.025
Total Barium	mg/L	0.110	14	0.043	70	<1.0
Total Boron	mg/L	NA	0	0.58*	9	3.3
Total Cadmium	mg/L	0.013	3	0.017	55	<0.010
Total Chromium	mg/L	0.0184	5	0.052	28	0.11
Total Iron	mg/L	NA	0	31.6*	14	<0.070
Total Lead	mg/L	0.064	4	0.078	13	<0.050
Magnesium	mg/L	NA	0	7076*	14	<0.20
Total Mercury	mg/L	0.0086	4	0.0152	20	<0.00010
Total Selenium	mg/L	0.266	7	1.813	76	<0.050
Total Silver	mg/L	0.661	3	0.070	8	<0.030
Total Sodium	mg/L	NA	0	7153*	14	50.6
Total Dissolved Solids	mg/L	4814**	2	56683	73	450
pH	s.u.	8.35	8	7.29	71	NA
Sulfate	mg/L	NA	0	39459*	14	122
Calcium	mg/L	NA	0	440*	14	87.2
Chloride	mg/L	NA	0	393*	14	0.84
Nitrogen, Nitrate	mg/L	NA	0	82.5*	9	0.13
Nitrogen, Nitrite	mg/L	NA	0	40.6*	3	0.017

Notes:

NA= not analyzed

"<" = not detected above the laboratory reporting limit

* Average of analytical results from 2006-2012

** Average of analytical results from 1989-1990

Figure 8. Ash Sample SPLP Concentrations

The Landfill Cell 1 was constructed with a compacted clay liner and Cell 2E has a synthetic/composite liner with a leachate collection system (**Figure 9**). Leachate is collected into a leachate tank, which is inspected, sampled tested, and pumped out for use as dust suppressant in the active area of the landfill. PSCo maintains a Leachate Tank Log, which is a record of gallons of landfill leachate pumped out for disposal. Records reflect the volume of leachate generated is relatively low and corresponds to installation of new liner and prior to placement of the first lift of ash. Once the first lift of compacted ash is in place, infiltration of precipitation decreases significantly. The leachate was sampled from the collection tank and analyzed twice, and chloride concentrations of the landfill leachate were 18 mg/l and 294 mg/l. The chloride variability between the two samples may be due to the amount of leachate present in the tank at the time it is sampled and the potential for evaporation within the tank. These two chloride concentrations of leachate are less than groundwater background concentration, and an order of magnitude less than the concentrations at MW-9, which is consistent with the landfill not being the source of elevated chloride in MW-9 and MW-5.



Figure 9. Landfill Cell Boundary Map



PSCo also collected soil samples to evaluate if soil leachate constituent concentrations appear to contribute to the observed groundwater SSIs and groundwater quality. Soil samples were collected while drilling borings for MW-8 and MW-9. Samples were analyzed by ALS laboratory for both SPLP leachate analysis and total soil concentrations, and the laboratory report is included in **Attachment 2. Table 3** displays the concentrations of chloride in soil leachate was between <5 and 15.6 mg/L and the chloride concentrations of the total anions in the soil were between 47.8 and 263 mg/kg. While these concentrations are not on the order of the concentrations observed in groundwater, they are 1-2 orders of magnitude higher chloride concentration than the ash.

Table 3. Soil Chloride Concentrations and Soil Leachate Concentrations from Borings		
Soil Sample Boring	SPLP Leachate	Total Anions
	Chloride (mg/L)	Chloride (mg/kg)
MW-8 (1-4')	<5	62.7
MW-8 (7-10')	<5	47.8
MW-9 (0-1')	7.29	92.4
MW-9 (1-4')	15.6	263

The Natural Resources Conservation Service (NRCS) Soil Survey for the area mapped soil at the natural depression immediately north of MW-5 as Razor clay loam (Ra), which is a clayey slope alluvium over residuum weathered from shale. The soil properties for Ra include having moderately saline to strongly saline (8.0 to 16.0 mmhos/cm) (NRCS, 2022). Saline soils contain soluble salts. The soluble salts "...most commonly present in saline soils are the chlorides and sulphates of sodium, calcium and magnesium. Nitrates may be present in appreciable quantities only rarely. Sodium and chloride are by far the most dominant ions, particularly in highly saline soils, although calcium and magnesium are usually present in sufficient quantities to meet the nutritional needs of crops." (Yadav and Massoud, 1988). This soil mapping of saline soils is consistent with the natural depression and with literature documented concept that the natural depression is a potential source of chloride to groundwater:

- *"Evapotranspiration can affect the concentration of most pollutants of concern in stormwater management. Most pollutants (e.g., phosphorus, chloride, solids) do not evaporate and will become more concentrated as water evaporates from an open surface or from the soil" (Gulliver, Erickson, and Weiss, 2010).*
- Soils within catchments may function as a reservoir. Multiple studies have found that significant amounts of chloride are retained in catchment areas (Kincaid and Findlay, 2009).
- Slightly acidic rainwater dissolves soluble rock material, thereby increasing the concentrations of chemical constituents such as chloride to groundwater (Freeze and Cherry, 1979).

The natural depression just north of MW-5 collects and infiltrates stormwater runoff and concentrates naturally occurring salts and minerals from the soil into groundwater. The higher



concentrations of chloride at MW-9 and MW-5 appear to be the result of evaporative salts in the natural depression resulting from long-term evaporation of intermittent stormwater and shallow perched water. Subsequent stormwater infiltration may dissolve and transport these surface salts and naturally occurring salts to the groundwater and towards MW-5 downgradient and the rest of the landfill footprint. The natural depression/stormwater infiltration area, soil mapping, and the observed concentrations of chloride in groundwater at MW-9 and soils demonstrate the natural depression is the most likely source of chloride for the SSI at MW-5.

Figure 10 displays an estimated capture zone for well MW-2B and demonstrates that this well location also receives groundwater flow from the natural depression/stormwater infiltration area (Figure 8). MW-1B is further downgradient of the natural depression and of wells MW-2B and MW-5, and the chloride concentrations at MW-1B are lower than these other SSI wells (MW-2B and MW-5). Therefore, it is most likely that the source of chloride to MW-1B is from the same source as these other wells, and the concentration of chloride is decreasing away from the source.

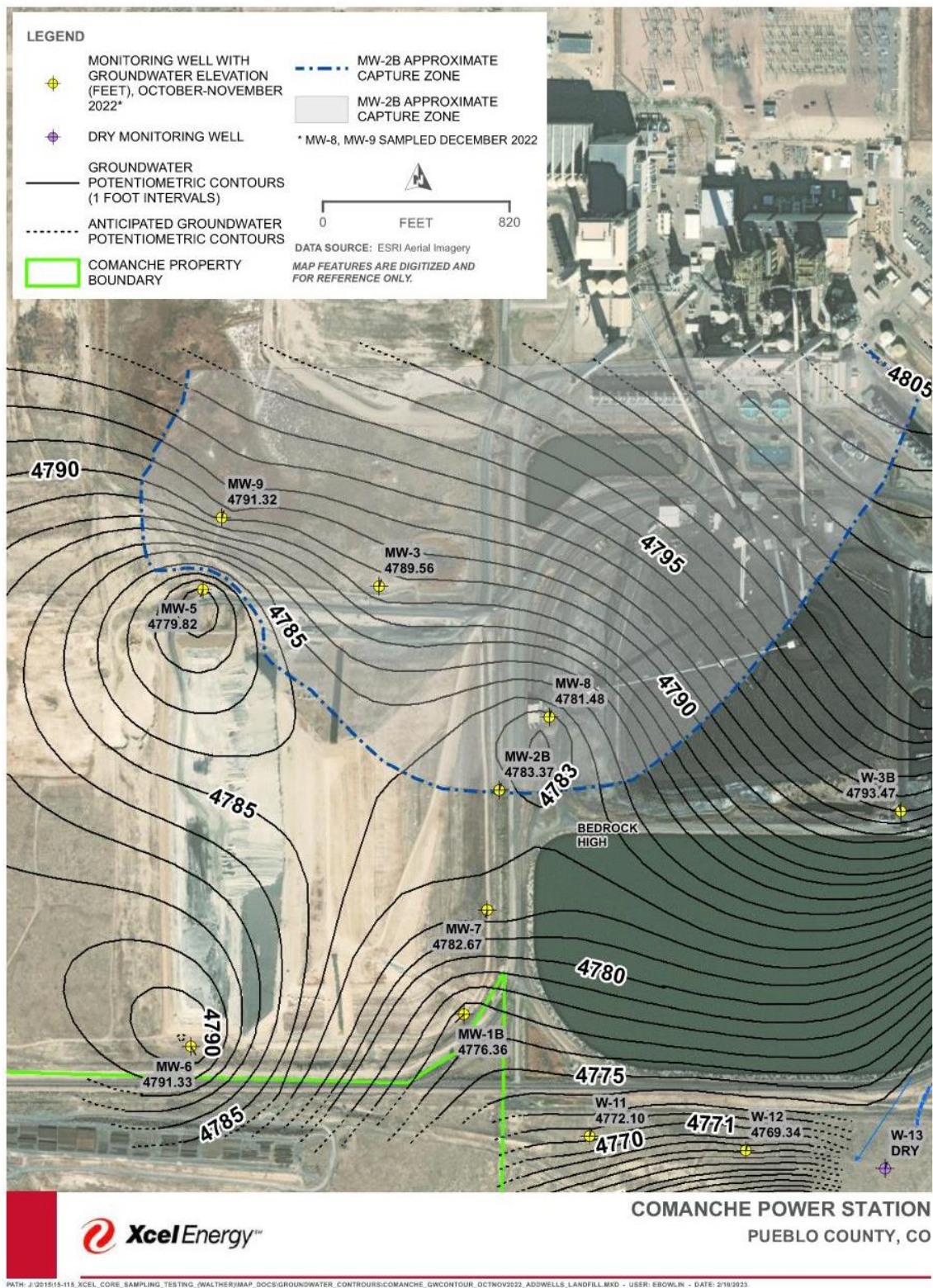


Figure 10. Approximate capture zone for well MW-2B demonstrating that flow from under the natural depression area is part of the MW-2B capture zone.



5.0 Summary

The occurrence of the natural depression/stormwater infiltration area and the observed concentrations of chloride in groundwater at MW-9, along with the higher soil and leachate concentrations of chloride at MW-9 than the ash, demonstrate the natural depression is the most likely source of chloride for the SSI at MW-5.

The location of MW-2B appears to receive groundwater flow from the natural depression, which could account for the observed concentrations of chloride at MW-2B above the background. In addition, the concentration of chloride at MW-8, which may collect groundwater from the landfill but also collects groundwater from the north and east, has a higher concentration of chloride (600 mg/L) than any other downgradient landfill well other than MW-5. If the landfill were the source of the chloride this would not be expected.

MW-1B is further downgradient of the natural depression and of wells MW-2B and MW-5, and the chloride concentrations at MW-1B are lower than these other SSI wells (MW-2B and MW-5). Therefore, it is most likely that the source of chloride to MW-1B is from the same source as these other wells, and the concentration of chloride is decreasing away from the source. If the landfill were the source of chloride to groundwater, SSIs would also be expected at MW-7, which is not observed.

Additionally, the ash from the landfill has very low chloride in the leachate, and therefore does not appear to have enough chloride in the ash to be a source at the concentrations observed in MW-5.

The multiple lines of evidence presented in this document provide strong support that the natural SFHA non-contact stormwater infiltration area north of the landfill, rather than the landfill, is likely the source of the chloride SSIs observed at wells MW-1B, MW-2B, and MW-5, and the landfill should remain in detection monitoring.



References

Gulliver, J.S., A.J. Erickson, and P.T. Weiss (editors). 2010. Evaporation and Evapotranspiration | Stormwater Treatment: Assessment and Maintenance, University of Minnesota, St. Anthony Falls Laboratory. Minneapolis, MN.

HDR, Inc. 2021. Groundwater Monitoring System Certification, Comanche Station, Pueblo, Colorado. June 28, 2021.

HDR, Inc. 2022. Groundwater Monitoring System Certification, Comanche Station, Pueblo, Colorado. July 5, 2022.

J.S.P. Yadav , F.I. Massoud, 1988. Salt Affected Soils, Food and Agriculture Organization of the United Nations, FAO Soils Bulletin 39.

Kincaid, D.W., & Findlay, S.E. 2009. Sources of Elevated Chloride in Local Streams: Groundwater and Soils as Potential Reservoirs). *Water, Air and Soil Pollution*, 203(1-4), 335-342.

NRCS, 2022. Web Soil Survey for Pueblo Area, Colorado Parts of Pueblo and Custer Counties. Accessed January 15, 2022.

Tetra Tech, 2013. Evaluation of Monitoring Well MW-3 and ADF Stormwater Pond Water Quality Chemistry at the Public Service Company of Colorado Comanche Station in Pueblo, Colorado.

Xcel Energy, 2022. Comanche Station Notification of Updated Groundwater Background Values, Statistically Significant Increases and Concentration Exceedances Comanche Station Consent Agreement and Final Order RCRA-08-2022-0008, October 28, 2022.



Public Service Company of Colorado: **Comanche Station Landfill**
*Alternative Source Determination of Statistically Significant Increases over Background
for Compliance with the Coal Combustion Residuals Rule*

Attachment 1

Boring Logs



HDR

MW-8

PAGE 1 OF 2

CLIENT Xcel EnergyPROJECT NAME Comanche StationPROJECT NUMBER 10279361PROJECT LOCATION Pueblo, CODATE STARTED 11/07/22 00:00 COMPLETED 11/07/22 00:00

WELL LOCATION _____

DRILLING CONTRACTOR Dakota Drilling

GROUND ELEVATION _____

HOLE DIAMETER 8DRILLING METHOD HSA/NX/AR

GROUND WATER LEVELS: _____

LOGGED BY D. Ray

CHECKED BY _____

AFTER DRILLING ---

NOTES

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0							Casing Type: 2-in PVC
	AU	0		ML	1.0	SANDY SILT WITH GRAVEL (ML), black, loose to soft, non plastic, dry, subangular, fine to coarse grained, with organics, non-cohesive	
5				ML		CLAYEY SILT WITH GRAVEL (ML), light olive brown, loose to medium stiff, low plasticity, dry to moist, and fine to coarse sand, gravel composed of clay fines (clods), cohesiveness increases w/ depth	
	CC	83		CL-ML	6.0	SILTY LEAN CLAY (CL-ML), olive brown mottled with dark grayish brown, medium stiff to medium dense, low plasticity, dry to moist, laminated, trace gravel with rock fragments, iron oxide staining, evaporites	
10				CL	9.0	LEAN CLAY (CL), light olive brown to dark olive brown, stiff to dense, low plasticity, moist, blocky, some silt, some shale fragments, abundant evaporite deposits @ ~16-18 ft	
15	CC	83		CL			Bentonite (seal)
	CC	100		CL	18.0	LEAN CLAY (CL), olive brown to dark yellowish brown, very stiff to very dense, low plasticity, moist, blocky, with rock fragments, less evaporites (residuum)	
20				CL	20.0	CLAYEY SHALE, completely weathered, olive brown to very dark grayish brown, very soft to soft, damp, iron oxide staining, evaporite vein deposits, very stiff/dense clayey exterior (plastic), more structured interior (shale fragments)	
25	NX	83			25.0	SHALE, highly weathered, bedded, dark grayish black, soft to medium hard, damp, iron oxide staining, weak to medium strong, fractures, evaporite deposits, soft clayey zones and brittle areas	
30					30.0	SHALE, moderately weathered, bedded, olive brown to very dark grayish brown, medium hard, wet, iron oxide staining, weak to medium strong, evaporite deposits, some soft clayey zones and brittle areas	
35	NX	100			35.0		Filter pack (sand) Screen interval (0.010")

(Continued Next Page)



HDR

MW-8

PAGE 2 OF 2

CLIENT Xcel EnergyPROJECT NAME Comanche StationPROJECT NUMBER 10279361PROJECT LOCATION Pueblo, CO

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
35							
	NX	100				SHALE, slightly weathered, bedded, black, hard, wet, iron oxide staining, medium strong to strong, some weak clayey areas and evaporite deposits	
						38.0	
						SHALE, unweathered, bedded, black, very hard, damp, no staining, strong, no fractures, trace evaporite veins (competent bedrock)	
40						40.0	

Bottom of borehole at 40.0 feet.

Borehole
collapse
during air
rotary



HDR

MW-9

PAGE 1 OF 1

CLIENT Xcel EnergyPROJECT NAME Comanche StationPROJECT NUMBER 10279361PROJECT LOCATION Pueblo, CODATE STARTED 11/08/22 00:00 COMPLETED 11/08/22 00:00

WELL LOCATION _____

DRILLING CONTRACTOR Dakota Drilling

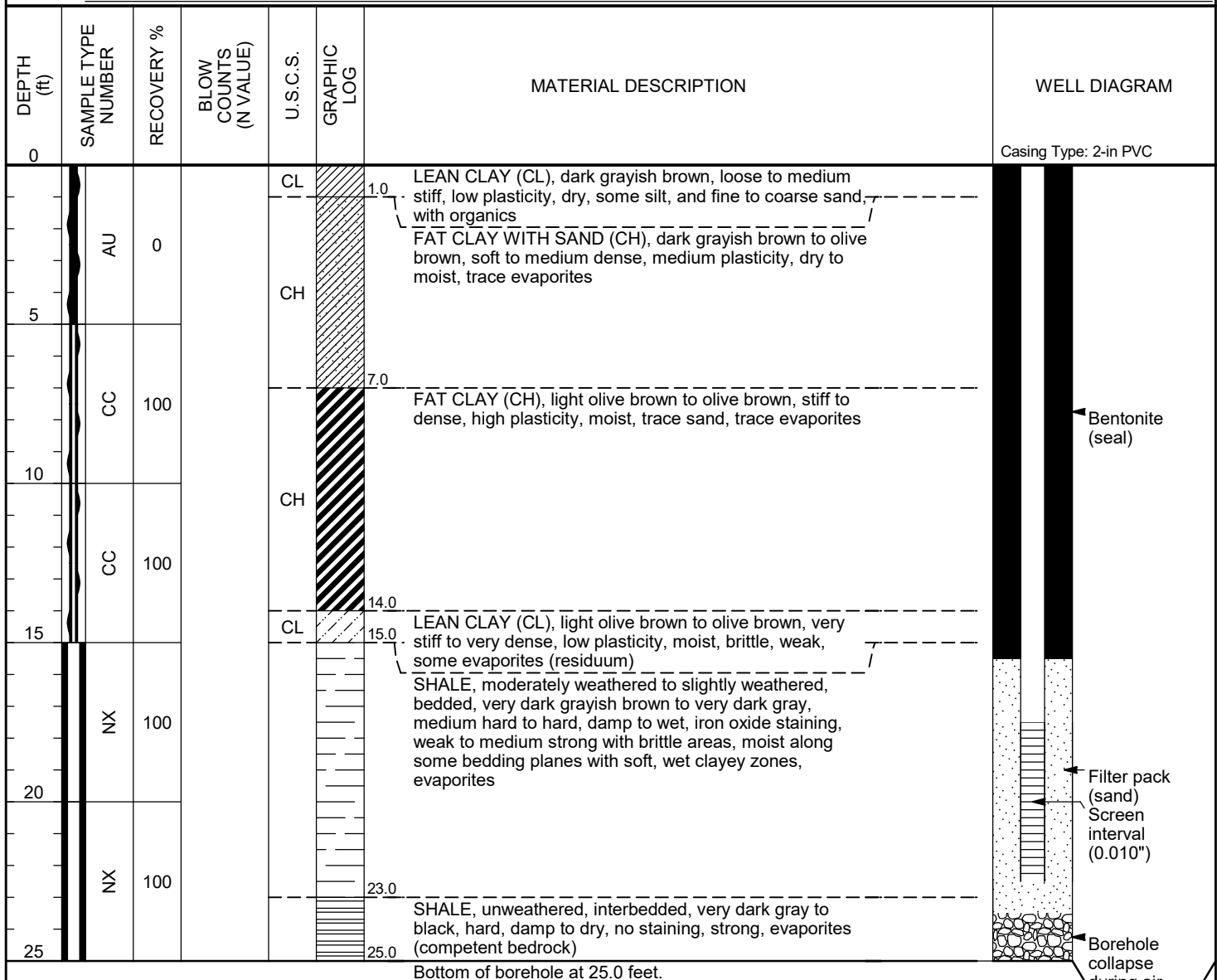
GROUND ELEVATION _____

HOLE DIAMETER 8DRILLING METHOD HSA/NX/AR

GROUND WATER LEVELS:

LOGGED BY D. Ray

CHECKED BY _____

AFTER DRILLING ---NOTES Screen set in weathered shale



Public Service Company of Colorado: **Comanche Station Landfill**
*Alternative Source Determination of Statistically Significant Increases over Background
for Compliance with the Coal Combustion Residuals Rule*

Attachment 2

Laboratory Reports

ANALYTICAL REPORT

PREPARED FOR

Attn: Molly Reeves
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202

Generated 1/4/2023 11:01:42 AM

JOB DESCRIPTION

Xcel Energy GW CCR Monitoring - Comanche

JOB NUMBER

280-170243-1

Eurofins Denver

Job Notes

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the Eurofins TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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

Authorization



Generated
1/4/2023 11:01:42 AM

Authorized for release by
Nicole Ryan, Project Manager I
Nicole.Ryan@ET.eurofinsus.com
(303)736-0100

Table of Contents

Cover Page	1
Table of Contents	3
Definitions	4
Case Narrative	5
Detection Summary	8
Method Summary	10
Sample Summary	11
Client Sample Results	12
QC Sample Results	15
QC Association	25
Chronicle	29
Certification Summary	31
Chain of Custody	32
Receipt Checklists	33



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Qualifiers

Metals

Qualifier	Qualifier Description
^+	Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.
^6+	Interference Check Standard (ICSA and/or ICSAB) 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.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD 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
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Job ID: 280-170243-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-170243-1

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.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Receipt

The samples were received on 12/12/2022 8:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.1° C.

DISSOLVED METALS

Sample MW-8 (280-170243-1) was analyzed for Dissolved Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 12/20/2022 and analyzed on 01/03/2023 and 12/27/2022.

Boron was detected in method blank MB 280-596890/1-B 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.

Sample MW-8 (280-170243-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL RECOVERABLE METALS

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 12/15/2022 and analyzed on 12/16/2022.

Boron was detected in method blank MB 280-596693/1-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.

Boron and Lithium failed the recovery criteria low for the MS of sample 280-169949-3 in batch 280-597034.

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

DISSOLVED METALS (ICP/MS)

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Job ID: 280-170243-1 (Continued)

Laboratory: Eurofins Denver (Continued)

Sample MW-8 (280-170243-1) was analyzed for Dissolved Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 12/20/2022 and analyzed on 12/21/2022 and 12/29/2022.

The interference check standard solution (ICSA) associated with batch 280-598107 had results for one or more elements at a level greater than 2 times the Reporting Limit. The following are the affected analyte: Ba. The vendor acknowledges that these elements are trace impurities in the ICSA standard. These results are not indicative of a matrix interference.

Calcium and Sodium failed the recovery criteria low for the MS of sample 280-169541-1 in batch 280-597566.

Calcium and Sodium failed the recovery criteria low for the MSD of sample 280-169541-1 in batch 280-597566.

Samples MW-8 (280-170243-1)[5X] and MW-8 (280-170243-1)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL RECOVERABLE METALS (ICP/MS)

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for Total Recoverable Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 12/16/2022 and 12/29/2022 and analyzed on 12/19/2022, 12/21/2022 and 12/29/2022.

The interference check standard solution (ICSA) associated with batch 280-598120 had results for one or more elements at a level greater than 2 times the Reporting Limit. The following are the affected analytes: Ba. The vendor acknowledges that these elements are trace impurities in the ICSA standard. These results are not indicative of a matrix interference.

The continuing calibration verification (CCV) associated with batch 280-598120 recovered (111%) above the upper control limit (110%) for Be. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-8 (280-170243-1) and (CCV 280-598120/57).

Barium and Molybdenum were detected in method blank MB 280-596683/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

Magnesium failed the recovery criteria low for the MS of sample MW-9MS (280-170243-2) in batch 280-597566. Calcium and Sodium failed the recovery criteria high.

Cadmium and Cobalt failed the recovery criteria low for the MSD of sample MW-9MSD (280-170243-2) in batch 280-597566. Calcium, Magnesium and Sodium failed the recovery criteria high.

Potassium failed the recovery criteria low for the MS of sample 280-170710-1 in batch 280-598120.

Potassium failed the recovery criteria low for the MSD of sample 280-170710-1 in batch 280-598120.

Samples MW-8 (280-170243-1)[5X], MW-8 (280-170243-1)[50X] and MW-9 (280-170243-2)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED MERCURY

Sample MW-8 (280-170243-1) was analyzed for dissolved mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 12/28/2022.

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

TOTAL MERCURY

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for total mercury in accordance with EPA SW-846 Methods

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Job ID: 280-170243-1 (Continued)

Laboratory: Eurofins Denver (Continued)

7470A. The samples were prepared on 12/13/2022 and analyzed on 12/14/2022.

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

ALKALINITY

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 12/13/2022.

Alkalinity was detected in method blank MB 280-596623/32 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Bicarbonate Alkalinity as CaCO₃ was detected in method blank MB 280-596623/32 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. Alkalinity was detected in method blank MB 280-596623/6 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Bicarbonate Alkalinity as CaCO₃ was detected in method blank MB 280-596623/6 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.

TOTAL DISSOLVED SOLIDS

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 12/14/2022.

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

TOTAL SUSPENDED SOLIDS

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 12/13/2022 and 12/16/2022.

The sample duplicate (DUP) precision for analytical batch 280-597008 was outside control limits. Sample non-homogeneity is suspected.

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

CORROSIVITY (PH)

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 12/20/2022.

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

ANIONS (28 DAYS)

Samples MW-8 (280-170243-1) and MW-9 (280-170243-2) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 12/22/2022, 12/23/2022 and 12/27/2022.

Chloride and Fluoride failed the recovery criteria low for the MS of sample 280-170192-5 in batch 280-597496.

Chloride and Fluoride failed the recovery criteria low for the MSD of sample 280-170192-5 in batch 280-597496.

Samples MW-8 (280-170243-1)[1000X], MW-8 (280-170243-1)[50X], MW-9 (280-170243-2)[50X] and MW-9 (280-170243-2)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Client Sample ID: MW-8

Lab Sample ID: 280-170243-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Boron	1.0	B	0.10	0.0015	mg/L	1			6010C	Total
Lithium	3.3		0.020	0.0091	mg/L	1			6010C	Recoverable
Boron	1.1	B	0.20	0.0029	mg/L	2			6010C	Total
Lithium	3.2		0.020	0.0091	mg/L	1			6010C	Recoverable
Antimony	0.00093	J	0.0020	0.00040	mg/L	1			6020B	Dissolved
Arsenic	0.0021	J	0.0050	0.00033	mg/L	1			6020B	Total
Barium	0.018	B	0.0010	0.00029	mg/L	1			6020B	Recoverable
Cadmium	0.00097	J	0.0010	0.00027	mg/L	1			6020B	Total
Chromium	0.0042		0.0020	0.00050	mg/L	1			6020B	Recoverable
Cobalt	0.0066		0.0010	0.000092	mg/L	1			6020B	Total
Lead	0.0014		0.0010	0.00018	mg/L	1			6020B	Recoverable
Molybdenum	0.0097	B	0.0020	0.00014	mg/L	1			6020B	Total
Selenium	1.7		0.0050	0.00037	mg/L	1			6020B	Recoverable
Thallium	0.0064		0.0010	0.000089	mg/L	1			6020B	Total
Calcium	460		10	1.9	mg/L	50			6020B	Recoverable
Sodium	5900		7.5	3.2	mg/L	50			6020B	Total
Potassium	34		6.0	2.6	mg/L	50			6020B	Recoverable
Magnesium	5000		2.5	1.1	mg/L	50			6020B	Total
Barium	0.020	^6+	0.0050	0.0015	mg/L	5			6020B	Recoverable
Beryllium	0.00079	J ^+	0.0050	0.00040	mg/L	5			6020B	Dissolved
Chromium	0.0058	J	0.010	0.0025	mg/L	5			6020B	Dissolved
Cobalt	0.0085		0.0050	0.00046	mg/L	5			6020B	Dissolved
Calcium	460		10	1.9	mg/L	50			6020B	Dissolved
Molybdenum	0.013		0.010	0.00070	mg/L	5			6020B	Dissolved
Selenium	1.9		0.025	0.0019	mg/L	5			6020B	Dissolved
Thallium	0.0073		0.0050	0.00045	mg/L	5			6020B	Dissolved
Sodium	6000		7.5	3.2	mg/L	50			6020B	Dissolved
Potassium	33		6.0	2.6	mg/L	50			6020B	Dissolved
Magnesium	5100		2.5	1.1	mg/L	50			6020B	Dissolved
Mercury	0.000061	J	0.00020	0.000061	mg/L	1			7470A	Total/NA
pH adj. to 25 deg C	7.6	HF	0.1	0.1	SU	1			9040B	Total/NA
Temperature	23.6	HF	1.0	1.0	Degrees C	1			9040B	Total/NA
Chloride	600		150	51	mg/L	50			9056A	Total/NA
Fluoride	31		25	8.3	mg/L	50			9056A	Total/NA
Sulfate	37000		5000	1000	mg/L	1000			9056A	Total/NA
Alkalinity	1300	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1300	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids (TDS)	41000		1000	470	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	36		4.0	1.1	mg/L	1			SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Client Sample ID: MW-9

Lab Sample ID: 280-170243-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.95	B	0.10	0.0015	mg/L	1		6010C	Total
									Recoverable
Lithium	1.0		0.020	0.0091	mg/L	1		6010C	Total
									Recoverable
Antimony	0.0013	J	0.0020	0.00040	mg/L	1		6020B	Total
									Recoverable
Arsenic	0.0024	J	0.0050	0.00033	mg/L	1		6020B	Total
									Recoverable
Barium	0.012	B	0.0010	0.00029	mg/L	1		6020B	Total
									Recoverable
Cadmium	0.0011	F1	0.0010	0.00027	mg/L	1		6020B	Total
									Recoverable
Chromium	0.0016	J	0.0020	0.00050	mg/L	1		6020B	Total
									Recoverable
Cobalt	0.0085	F1	0.0010	0.000092	mg/L	1		6020B	Total
									Recoverable
Lead	0.00086	J	0.0010	0.00018	mg/L	1		6020B	Total
									Recoverable
Molybdenum	0.0046	B	0.0020	0.00014	mg/L	1		6020B	Total
									Recoverable
Selenium	0.0018	J	0.0050	0.00037	mg/L	1		6020B	Total
									Recoverable
Thallium	0.0019		0.0010	0.000089	mg/L	1		6020B	Total
									Recoverable
Calcium	420	F2	10	1.9	mg/L	50		6020B	Total
									Recoverable
Sodium	7300		7.5	3.2	mg/L	50		6020B	Total
									Recoverable
Potassium	19		0.12	0.052	mg/L	1		6020B	Total
									Recoverable
Magnesium	1000		2.5	1.1	mg/L	50		6020B	Total
									Recoverable
pH adj. to 25 deg C	7.5	HF	0.1	0.1	SU	1		9040B	Total/NA
Temperature	23.5	HF	1.0	1.0	Degrees C	1		9040B	Total/NA
Chloride	1400		150	51	mg/L	50		9056A	Total/NA
Sulfate	19000		2500	520	mg/L	500		9056A	Total/NA
Alkalinity	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	25000		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.

Eurofins Denver

Method Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
7470A	Mercury (CVAA)	SW846	EET DEN
9040B	pH	SW846	EET DEN
9056A	Anions, Ion Chromatography	SW846	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
7470A	Preparation, Mercury	SW846	EET DEN
FILTRATION	Sample Filtration	None	EET DEN

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:

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

Sample Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-170243-1	MW-8	Water	12/08/22 16:00	12/12/22 08:30
280-170243-2	MW-9	Water	12/09/22 14:00	12/12/22 08:30

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: SW846 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0	B	0.10	0.0015	mg/L		12/15/22 16:37	12/16/22 18:24	1
Lithium	3.3		0.020	0.0091	mg/L		12/15/22 16:37	12/16/22 18:24	1

Client Sample ID: MW-9
Date Collected: 12/09/22 14:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.95	B	0.10	0.0015	mg/L		12/15/22 16:37	12/16/22 18:44	1
Lithium	1.0		0.020	0.0091	mg/L		12/15/22 16:37	12/16/22 18:44	1

Method: SW846 6010C - Metals (ICP) - Dissolved

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.1	B	0.20	0.0029	mg/L		12/20/22 08:08	01/03/23 13:37	2
Lithium	3.2		0.020	0.0091	mg/L		12/20/22 08:08	12/27/22 14:29	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00093	J	0.0020	0.00040	mg/L		12/16/22 07:34	12/19/22 18:21	1
Arsenic	0.0021	J	0.0050	0.00033	mg/L		12/16/22 07:34	12/19/22 18:21	1
Barium	0.018	B	0.0010	0.00029	mg/L		12/16/22 07:34	12/19/22 18:21	1
Beryllium	ND	^+	0.0050	0.00040	mg/L		12/29/22 08:16	12/29/22 18:03	5
Cadmium	0.00097	J	0.0010	0.00027	mg/L		12/16/22 07:34	12/19/22 18:21	1
Chromium	0.0042		0.0020	0.00050	mg/L		12/16/22 07:34	12/19/22 18:21	1
Cobalt	0.0066		0.0010	0.000092	mg/L		12/16/22 07:34	12/19/22 18:21	1
Lead	0.0014		0.0010	0.00018	mg/L		12/16/22 07:34	12/19/22 18:21	1
Molybdenum	0.0097	B	0.0020	0.00014	mg/L		12/16/22 07:34	12/19/22 18:21	1
Selenium	1.7		0.0050	0.00037	mg/L		12/16/22 07:34	12/19/22 18:21	1
Thallium	0.0064		0.0010	0.000089	mg/L		12/16/22 07:34	12/19/22 18:21	1
Calcium	460		10	1.9	mg/L		12/16/22 07:34	12/21/22 15:42	50
Sodium	5900		7.5	3.2	mg/L		12/16/22 07:34	12/21/22 15:42	50
Potassium	34		6.0	2.6	mg/L		12/29/22 08:16	12/29/22 16:56	50
Magnesium	5000		2.5	1.1	mg/L		12/16/22 07:34	12/21/22 15:42	50

Client Sample ID: MW-9
Date Collected: 12/09/22 14:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0013	J	0.0020	0.00040	mg/L		12/16/22 07:34	12/19/22 18:23	1
Arsenic	0.0024	J	0.0050	0.00033	mg/L		12/16/22 07:34	12/19/22 18:23	1
Barium	0.012	B	0.0010	0.00029	mg/L		12/16/22 07:34	12/19/22 18:23	1
Beryllium	ND		0.0010	0.000080	mg/L		12/29/22 08:16	12/29/22 17:00	1
Cadmium	0.0011	F1	0.0010	0.00027	mg/L		12/16/22 07:34	12/19/22 18:23	1
Chromium	0.0016	J	0.0020	0.00050	mg/L		12/16/22 07:34	12/19/22 18:23	1

Eurofins Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-9
Date Collected: 12/09/22 14:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0085	F1	0.0010	0.000092	mg/L		12/16/22 07:34	12/19/22 18:23	1
Lead	0.00086	J	0.0010	0.00018	mg/L		12/16/22 07:34	12/19/22 18:23	1
Molybdenum	0.0046	B	0.0020	0.00014	mg/L		12/16/22 07:34	12/19/22 18:23	1
Selenium	0.0018	J	0.0050	0.00037	mg/L		12/16/22 07:34	12/19/22 18:23	1
Thallium	0.0019		0.0010	0.000089	mg/L		12/16/22 07:34	12/19/22 18:23	1
Calcium	420	F2	10	1.9	mg/L		12/16/22 07:34	12/21/22 15:46	50
Sodium	7300		7.5	3.2	mg/L		12/16/22 07:34	12/21/22 15:46	50
Potassium	19		0.12	0.052	mg/L		12/29/22 08:16	12/29/22 17:00	1
Magnesium	1000		2.5	1.1	mg/L		12/16/22 07:34	12/21/22 15:46	50

Method: SW846 6020B - Metals (ICP/MS) - Dissolved

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0020	mg/L		12/20/22 08:20	12/29/22 17:41	5
Arsenic	ND		0.025	0.0017	mg/L		12/20/22 08:20	12/29/22 17:41	5
Barium	0.020	^6+	0.0050	0.0015	mg/L		12/20/22 08:20	12/29/22 17:41	5
Beryllium	0.00079	J ^+	0.0050	0.00040	mg/L		12/20/22 08:20	12/29/22 17:41	5
Cadmium	ND		0.0050	0.0013	mg/L		12/20/22 08:20	12/29/22 17:41	5
Chromium	0.0058	J	0.010	0.0025	mg/L		12/20/22 08:20	12/29/22 17:41	5
Cobalt	0.0085		0.0050	0.00046	mg/L		12/20/22 08:20	12/29/22 17:41	5
Lead	ND		0.0050	0.00090	mg/L		12/20/22 08:20	12/29/22 17:41	5
Calcium	460		10	1.9	mg/L		12/20/22 08:20	12/21/22 17:54	50
Molybdenum	0.013		0.010	0.00070	mg/L		12/20/22 08:20	12/29/22 17:41	5
Selenium	1.9		0.025	0.0019	mg/L		12/20/22 08:20	12/29/22 17:41	5
Thallium	0.0073		0.0050	0.00045	mg/L		12/20/22 08:20	12/29/22 17:41	5
Sodium	6000		7.5	3.2	mg/L		12/20/22 08:20	12/21/22 17:54	50
Potassium	33		6.0	2.6	mg/L		12/20/22 08:20	12/29/22 16:22	50
Magnesium	5100		2.5	1.1	mg/L		12/20/22 08:20	12/21/22 17:54	50

Method: SW846 7470A - Mercury (CVAA)

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000061	J	0.00020	0.000061	mg/L		12/13/22 18:50	12/14/22 21:11	1

Client Sample ID: MW-9
Date Collected: 12/09/22 14:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		12/13/22 18:50	12/14/22 21:24	1

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: SW846 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		12/28/22 13:05	12/28/22 20:42	1

General Chemistry

Client Sample ID: MW-8
Date Collected: 12/08/22 16:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.6	HF	0.1	0.1	SU			12/20/22 17:50	1
Temperature (SW846 9040B)	23.6	HF	1.0	1.0	Degrees C			12/20/22 17:50	1
Chloride (SW846 9056A)	600		150	51	mg/L			12/22/22 05:29	50
Fluoride (SW846 9056A)	31		25	8.3	mg/L			12/22/22 05:29	50
Sulfate (SW846 9056A)	37000		5000	1000	mg/L			12/23/22 01:57	1000
Alkalinity (SM 2320B)	1300	B	10	3.1	mg/L			12/13/22 17:06	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1300	B	10	3.1	mg/L			12/13/22 17:06	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			12/13/22 17:06	1
Total Dissolved Solids (TDS) (SM 2540C)	41000		1000	470	mg/L			12/14/22 11:54	1
Total Suspended Solids (SM 2540D)	36		4.0	1.1	mg/L			12/13/22 12:01	1

Client Sample ID: MW-9
Date Collected: 12/09/22 14:00
Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.5	HF	0.1	0.1	SU			12/20/22 17:54	1
Temperature (SW846 9040B)	23.5	HF	1.0	1.0	Degrees C			12/20/22 17:54	1
Chloride (SW846 9056A)	1400		150	51	mg/L			12/22/22 06:01	50
Fluoride (SW846 9056A)	ND		0.50	0.17	mg/L			12/27/22 17:22	1
Sulfate (SW846 9056A)	19000		2500	520	mg/L			12/23/22 02:42	500
Alkalinity (SM 2320B)	1400	B	10	3.1	mg/L			12/13/22 17:22	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1400	B	10	3.1	mg/L			12/13/22 17:22	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			12/13/22 17:22	1
Total Dissolved Solids (TDS) (SM 2540C)	25000		1000	470	mg/L			12/14/22 11:54	1
Total Suspended Solids (SM 2540D)	10		4.0	1.1	mg/L			12/16/22 14:10	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-596693/1-A
Matrix: Water
Analysis Batch: 597034

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596693

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00289	J	0.10	0.0015	mg/L		12/15/22 16:37	12/16/22 16:19	1
Lithium	ND		0.020	0.0091	mg/L		12/15/22 16:37	12/16/22 16:19	1

Lab Sample ID: LCS 280-596693/2-A
Matrix: Water
Analysis Batch: 597034

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596693

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	1.95		mg/L		97	86 - 110
Lithium	1.00	0.998		mg/L		100	90 - 112

Lab Sample ID: MB 280-596890/1-B
Matrix: Water
Analysis Batch: 597466

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 597089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.0015	mg/L		12/20/22 08:08	12/20/22 16:28	1

Lab Sample ID: MB 280-596890/1-B
Matrix: Water
Analysis Batch: 597844

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 597089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND		0.020	0.0091	mg/L		12/20/22 08:08	12/27/22 14:01	1

Lab Sample ID: MB 280-596890/1-B
Matrix: Water
Analysis Batch: 598404

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 597089

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00196	J	0.10	0.0015	mg/L		12/20/22 08:08	01/03/23 15:24	1

Lab Sample ID: LCS 280-596890/2-B
Matrix: Water
Analysis Batch: 597466

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 597089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	2.15		mg/L		107	86 - 110

Lab Sample ID: LCS 280-596890/2-B
Matrix: Water
Analysis Batch: 597844

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 597089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lithium	1.00	1.02		mg/L		102	90 - 112

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-596890/2-B
Matrix: Water
Analysis Batch: 598404

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 597089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	1.95		mg/L		98	86 - 110

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-596683/1-A
Matrix: Water
Analysis Batch: 597258

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		12/16/22 07:34	12/19/22 17:50	1
Arsenic	ND		0.0050	0.00033	mg/L		12/16/22 07:34	12/19/22 17:50	1
Barium	0.000362	J	0.0010	0.00029	mg/L		12/16/22 07:34	12/19/22 17:50	1
Cadmium	ND		0.0010	0.00027	mg/L		12/16/22 07:34	12/19/22 17:50	1
Chromium	ND		0.0020	0.00050	mg/L		12/16/22 07:34	12/19/22 17:50	1
Cobalt	ND		0.0010	0.000092	mg/L		12/16/22 07:34	12/19/22 17:50	1
Lead	ND		0.0010	0.00018	mg/L		12/16/22 07:34	12/19/22 17:50	1
Molybdenum	0.000141	J	0.0020	0.00014	mg/L		12/16/22 07:34	12/19/22 17:50	1
Selenium	ND		0.0050	0.00037	mg/L		12/16/22 07:34	12/19/22 17:50	1
Thallium	ND		0.0010	0.000089	mg/L		12/16/22 07:34	12/19/22 17:50	1

Lab Sample ID: MB 280-596683/1-A
Matrix: Water
Analysis Batch: 597566

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.000080	mg/L		12/16/22 07:34	12/21/22 15:35	1
Calcium	ND		0.20	0.038	mg/L		12/16/22 07:34	12/21/22 15:35	1
Sodium	ND		0.15	0.065	mg/L		12/16/22 07:34	12/21/22 15:35	1
Magnesium	ND		0.050	0.021	mg/L		12/16/22 07:34	12/21/22 15:35	1

Lab Sample ID: LCS 280-596683/2-A
Matrix: Water
Analysis Batch: 597258

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0399		mg/L		100	85 - 115
Arsenic	0.0400	0.0397		mg/L		99	85 - 117
Barium	0.0400	0.0389		mg/L		97	85 - 118
Cadmium	0.0400	0.0382		mg/L		95	85 - 115
Chromium	0.0400	0.0403		mg/L		101	84 - 121
Cobalt	0.0400	0.0398		mg/L		100	85 - 120
Lead	0.0400	0.0398		mg/L		100	85 - 118
Molybdenum	0.0400	0.0399		mg/L		100	85 - 119
Selenium	0.0400	0.0408		mg/L		102	77 - 122
Thallium	0.0400	0.0400		mg/L		100	85 - 118

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: LCS 280-596683/2-A
Matrix: Water
Analysis Batch: 597566

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	0.0400	0.0407		mg/L		102	80 - 125
Calcium	0.800	0.894		mg/L		112	80 - 120
Sodium	0.800	0.749		mg/L		94	80 - 120
Magnesium	0.800	0.757		mg/L		95	80 - 120

Lab Sample ID: 280-170243-2 MS
Matrix: Water
Analysis Batch: 597258

Client Sample ID: MW-9
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0013	J	0.0400	0.0407		mg/L		99	80 - 111
Arsenic	0.0024	J	0.0400	0.0423		mg/L		100	92 - 112
Barium	0.012	B	0.0400	0.0501		mg/L		95	92 - 117
Cadmium	0.0011	F1	0.0400	0.0374		mg/L		91	91 - 114
Chromium	0.0016	J	0.0400	0.0406		mg/L		97	91 - 114
Cobalt	0.0085	F1	0.0400	0.0462		mg/L		94	94 - 115
Lead	0.00086	J	0.0400	0.0414		mg/L		101	95 - 116
Molybdenum	0.0046	B	0.0400	0.0450		mg/L		101	84 - 117
Selenium	0.0018	J	0.0400	0.0419		mg/L		100	90 - 115
Thallium	0.0019		0.0400	0.0425		mg/L		102	94 - 115

Lab Sample ID: 280-170243-2 MS
Matrix: Water
Analysis Batch: 597566

Client Sample ID: MW-9
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Calcium	420	F2	0.800	424	4	mg/L		637	80 - 120
Sodium	7300		0.800	7370	4	mg/L		4604	80 - 120
Magnesium	1000		0.800	1040	4	mg/L		45	80 - 120

Lab Sample ID: 280-170243-2 MSD
Matrix: Water
Analysis Batch: 597258

Client Sample ID: MW-9
Prep Type: Total Recoverable
Prep Batch: 596683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Antimony	0.0013	J	0.0400	0.0402		mg/L		97	80 - 111	1	20
Arsenic	0.0024	J	0.0400	0.0425		mg/L		100	92 - 112	1	20
Barium	0.012	B	0.0400	0.0488		mg/L		92	92 - 117	3	20
Cadmium	0.0011	F1	0.0400	0.0369	F1	mg/L		89	91 - 114	2	20
Chromium	0.0016	J	0.0400	0.0403		mg/L		97	91 - 114	1	20
Cobalt	0.0085	F1	0.0400	0.0458	F1	mg/L		93	94 - 115	1	20
Lead	0.00086	J	0.0400	0.0414		mg/L		101	95 - 116	0	20
Molybdenum	0.0046	B	0.0400	0.0437		mg/L		98	84 - 117	3	20
Selenium	0.0018	J	0.0400	0.0421		mg/L		101	90 - 115	1	20
Thallium	0.0019		0.0400	0.0427		mg/L		102	94 - 115	0	20

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: 280-170243-2 MSD

Matrix: Water

Analysis Batch: 597566

Client Sample ID: MW-9

Prep Type: Total Recoverable

Prep Batch: 596683

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Calcium	420	F2	0.800	433	4	mg/L		1870	80 - 120	2	20
Sodium	7300		0.800	7610	4	mg/L		33829	80 - 120	3	20
Magnesium	1000		0.800	1090	4	mg/L		5743	80 - 120	4	20

Lab Sample ID: MB 280-597896/1-A

Matrix: Water

Analysis Batch: 598120

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 597896

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0010	0.000080	mg/L		12/29/22 08:16	12/29/22 16:48	1
Potassium	ND		0.12	0.052	mg/L		12/29/22 08:16	12/29/22 16:48	1

Lab Sample ID: LCS 280-597896/2-A

Matrix: Water

Analysis Batch: 598120

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 597896

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Beryllium	0.0400	0.0375		mg/L		94	80 - 125
Potassium	0.800	0.654		mg/L		82	80 - 120

Lab Sample ID: MB 280-596890/1-C

Matrix: Water

Analysis Batch: 597566

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 597090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		12/20/22 08:20	12/21/22 17:24	1
Arsenic	ND		0.0050	0.00033	mg/L		12/20/22 08:20	12/21/22 17:24	1
Barium	ND		0.0010	0.00029	mg/L		12/20/22 08:20	12/21/22 17:24	1
Beryllium	ND		0.0010	0.000080	mg/L		12/20/22 08:20	12/21/22 17:24	1
Cadmium	ND		0.0010	0.00027	mg/L		12/20/22 08:20	12/21/22 17:24	1
Chromium	ND		0.0020	0.00050	mg/L		12/20/22 08:20	12/21/22 17:24	1
Cobalt	ND		0.0010	0.000092	mg/L		12/20/22 08:20	12/21/22 17:24	1
Lead	ND		0.0010	0.00018	mg/L		12/20/22 08:20	12/21/22 17:24	1
Molybdenum	ND		0.0020	0.00014	mg/L		12/20/22 08:20	12/21/22 17:24	1
Selenium	ND		0.0050	0.00037	mg/L		12/20/22 08:20	12/21/22 17:24	1
Calcium	ND		0.20	0.038	mg/L		12/20/22 08:20	12/21/22 17:24	1
Thallium	ND		0.0010	0.000089	mg/L		12/20/22 08:20	12/21/22 17:24	1
Sodium	ND		0.15	0.065	mg/L		12/20/22 08:20	12/21/22 17:24	1
Magnesium	ND		0.050	0.021	mg/L		12/20/22 08:20	12/21/22 17:24	1

Lab Sample ID: MB 280-596890/1-C

Matrix: Water

Analysis Batch: 598107

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 597090

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND		0.12	0.052	mg/L		12/20/22 08:20	12/29/22 12:39	1

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: LCS 280-596890/2-C
Matrix: Water
Analysis Batch: 597566

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 597090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0408		mg/L		102	85 - 115
Arsenic	0.0400	0.0389		mg/L		97	85 - 117
Barium	0.0400	0.0415		mg/L		104	85 - 118
Beryllium	0.0400	0.0390		mg/L		97	80 - 125
Cadmium	0.0400	0.0416		mg/L		104	85 - 115
Chromium	0.0400	0.0416		mg/L		104	84 - 121
Cobalt	0.0400	0.0409		mg/L		102	85 - 120
Lead	0.0400	0.0410		mg/L		103	85 - 118
Molybdenum	0.0400	0.0402		mg/L		101	85 - 119
Selenium	0.0400	0.0404		mg/L		101	77 - 122
Calcium	0.800	0.873		mg/L		109	80 - 120
Thallium	0.0400	0.0400		mg/L		100	85 - 118
Sodium	0.800	0.737		mg/L		92	80 - 120
Magnesium	0.800	0.773		mg/L		97	80 - 120

Lab Sample ID: LCS 280-596890/2-C
Matrix: Water
Analysis Batch: 598107

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 597090

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Potassium	0.800	0.732		mg/L		91	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-596561/1-A
Matrix: Water
Analysis Batch: 596791

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 596561

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		12/13/22 18:50	12/14/22 20:30	1

Lab Sample ID: LCS 280-596561/2-A
Matrix: Water
Analysis Batch: 596791

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 596561

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00517		mg/L		103	84 - 120

Lab Sample ID: 280-170243-1 MS
Matrix: Water
Analysis Batch: 596791

Client Sample ID: MW-8
Prep Type: Total/NA
Prep Batch: 596561

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.000061	J	0.00500	0.00421		mg/L		84	75 - 125

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 280-170243-1 MSD

Matrix: Water

Analysis Batch: 596791

Client Sample ID: MW-8

Prep Type: Total/NA

Prep Batch: 596561

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.000061	J	0.00500	0.00422		mg/L		84	75 - 125	0	20

Lab Sample ID: MB 280-597455/1-E

Matrix: Water

Analysis Batch: 597997

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 597872

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		12/28/22 13:05	12/28/22 20:37	1

Lab Sample ID: LCS 280-597455/2-E

Matrix: Water

Analysis Batch: 597997

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Prep Batch: 597872

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00491		mg/L		98	84 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-597408/57

Matrix: Water

Analysis Batch: 597408

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 280-597496/95

Matrix: Water

Analysis Batch: 597496

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			12/22/22 03:53	1
Fluoride	ND		0.50	0.17	mg/L			12/22/22 03:53	1
Sulfate	ND		5.0	1.0	mg/L			12/22/22 03:53	1

Lab Sample ID: LCS 280-597496/93

Matrix: Water

Analysis Batch: 597496

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	52.8		mg/L		106	90 - 110
Fluoride	2.50	2.47		mg/L		99	90 - 110
Sulfate	50.0	52.1		mg/L		104	90 - 110

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: LCSD 280-597496/94

Matrix: Water

Analysis Batch: 597496

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	50.0	52.6		mg/L		105	90 - 110	0	10
Fluoride	2.50	2.46		mg/L		98	90 - 110	1	10
Sulfate	50.0	51.8		mg/L		104	90 - 110	0	10

Lab Sample ID: MRL 280-597496/10

Matrix: Water

Analysis Batch: 597496

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.41	J	mg/L		96	50 - 150
Fluoride	0.250	ND		mg/L		61	50 - 150
Sulfate	2.50	2.35	J	mg/L		94	50 - 150

Lab Sample ID: MB 280-597638/39

Matrix: Water

Analysis Batch: 597638

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			12/23/22 01:42	1

Lab Sample ID: LCS 280-597638/37

Matrix: Water

Analysis Batch: 597638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	50.0	48.8		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-597638/38

Matrix: Water

Analysis Batch: 597638

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	50.0	49.0		mg/L		98	90 - 110	0	10

Lab Sample ID: MRL 280-597638/3

Matrix: Water

Analysis Batch: 597638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	2.50	2.66	J	mg/L		106	50 - 150

Lab Sample ID: MB 280-597760/6

Matrix: Water

Analysis Batch: 597760

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			12/27/22 13:26	1

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: LCS 280-597760/4

Matrix: Water

Analysis Batch: 597760

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.67		mg/L		107	90 - 110

Lab Sample ID: LCSD 280-597760/5

Matrix: Water

Analysis Batch: 597760

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	2.50	2.67		mg/L		107	90 - 110	0	10

Lab Sample ID: MRL 280-597760/3

Matrix: Water

Analysis Batch: 597760

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.250	0.349	J	mg/L		140	50 - 150

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-596623/32

Matrix: Water

Analysis Batch: 596623

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	4.46	J	10	3.1	mg/L			12/13/22 15:47	1
Bicarbonate Alkalinity as CaCO3	4.46	J	10	3.1	mg/L			12/13/22 15:47	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			12/13/22 15:47	1

Lab Sample ID: MB 280-596623/6

Matrix: Water

Analysis Batch: 596623

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	3.43	J	10	3.1	mg/L			12/13/22 12:35	1
Bicarbonate Alkalinity as CaCO3	3.21	J	10	3.1	mg/L			12/13/22 12:35	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			12/13/22 12:35	1

Lab Sample ID: LCS 280-596623/31

Matrix: Water

Analysis Batch: 596623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	200	203		mg/L		101	89 - 109

Lab Sample ID: LCS 280-596623/4

Matrix: Water

Analysis Batch: 596623

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	200	203		mg/L		102	89 - 109

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCSD 280-596623/5

Matrix: Water

Analysis Batch: 596623

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	201		mg/L		101	89 - 109	3	10

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

Lab Sample ID: MB 280-596685/1

Matrix: Water

Analysis Batch: 596685

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			12/14/22 11:54	1

Lab Sample ID: LCS 280-596685/2

Matrix: Water

Analysis Batch: 596685

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	476		mg/L		95	88 - 114		

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

Lab Sample ID: MB 280-596515/2

Matrix: Water

Analysis Batch: 596515

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			12/13/22 12:01	1

Lab Sample ID: LCS 280-596515/1

Matrix: Water

Analysis Batch: 596515

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	500	455		mg/L		91	79 - 114		

Lab Sample ID: MB 280-597008/3

Matrix: Water

Analysis Batch: 597008

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			12/16/22 14:10	1

Lab Sample ID: LCS 280-597008/1

Matrix: Water

Analysis Batch: 597008

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	501	478		mg/L		95	79 - 114		

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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

Lab Sample ID: LCSD 280-597008/2

Matrix: Water

Analysis Batch: 597008

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	501	475		mg/L		95	79 - 114	1	20

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Metals

Prep Batch: 596561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	7470A	
280-170243-2	MW-9	Total/NA	Water	7470A	
MB 280-596561/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-596561/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-170243-1 MS	MW-8	Total/NA	Water	7470A	
280-170243-1 MSD	MW-8	Total/NA	Water	7470A	

Prep Batch: 596683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total Recoverable	Water	3005A	
280-170243-2	MW-9	Total Recoverable	Water	3005A	
MB 280-596683/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-596683/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-170243-2 MS	MW-9	Total Recoverable	Water	3005A	
280-170243-2 MSD	MW-9	Total Recoverable	Water	3005A	

Prep Batch: 596693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total Recoverable	Water	3005A	
280-170243-2	MW-9	Total Recoverable	Water	3005A	
MB 280-596693/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-596693/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 596791

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	7470A	596561
280-170243-2	MW-9	Total/NA	Water	7470A	596561
MB 280-596561/1-A	Method Blank	Total/NA	Water	7470A	596561
LCS 280-596561/2-A	Lab Control Sample	Total/NA	Water	7470A	596561
280-170243-1 MS	MW-8	Total/NA	Water	7470A	596561
280-170243-1 MSD	MW-8	Total/NA	Water	7470A	596561

Filtration Batch: 596890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	FILTRATION	
MB 280-596890/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 280-596890/1-C	Method Blank	Dissolved	Water	FILTRATION	
LCS 280-596890/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 280-596890/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	

Analysis Batch: 597034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total Recoverable	Water	6010C	596693
280-170243-2	MW-9	Total Recoverable	Water	6010C	596693
MB 280-596693/1-A	Method Blank	Total Recoverable	Water	6010C	596693
LCS 280-596693/2-A	Lab Control Sample	Total Recoverable	Water	6010C	596693

Prep Batch: 597089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	3005A	596890
MB 280-596890/1-B	Method Blank	Dissolved	Water	3005A	596890

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Metals (Continued)

Prep Batch: 597089 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-596890/2-B	Lab Control Sample	Dissolved	Water	3005A	596890

Prep Batch: 597090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	3005A	596890
MB 280-596890/1-C	Method Blank	Dissolved	Water	3005A	596890
LCS 280-596890/2-C	Lab Control Sample	Dissolved	Water	3005A	596890

Analysis Batch: 597258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total Recoverable	Water	6020B	596683
280-170243-2	MW-9	Total Recoverable	Water	6020B	596683
MB 280-596683/1-A	Method Blank	Total Recoverable	Water	6020B	596683
LCS 280-596683/2-A	Lab Control Sample	Total Recoverable	Water	6020B	596683
280-170243-2 MS	MW-9	Total Recoverable	Water	6020B	596683
280-170243-2 MSD	MW-9	Total Recoverable	Water	6020B	596683

Filtration Batch: 597455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	FILTRATION	
MB 280-597455/1-E	Method Blank	Dissolved	Water	FILTRATION	
LCS 280-597455/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	

Analysis Batch: 597466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-596890/1-B	Method Blank	Dissolved	Water	6010C	597089
LCS 280-596890/2-B	Lab Control Sample	Dissolved	Water	6010C	597089

Analysis Batch: 597566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	6020B	597090
280-170243-1	MW-8	Total Recoverable	Water	6020B	596683
280-170243-2	MW-9	Total Recoverable	Water	6020B	596683
MB 280-596683/1-A	Method Blank	Total Recoverable	Water	6020B	596683
MB 280-596890/1-C	Method Blank	Dissolved	Water	6020B	597090
LCS 280-596683/2-A	Lab Control Sample	Total Recoverable	Water	6020B	596683
LCS 280-596890/2-C	Lab Control Sample	Dissolved	Water	6020B	597090
280-170243-2 MS	MW-9	Total Recoverable	Water	6020B	596683
280-170243-2 MSD	MW-9	Total Recoverable	Water	6020B	596683

Analysis Batch: 597844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	6010C	597089
MB 280-596890/1-B	Method Blank	Dissolved	Water	6010C	597089
LCS 280-596890/2-B	Lab Control Sample	Dissolved	Water	6010C	597089

Prep Batch: 597872

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	7470A	597455
MB 280-597455/1-E	Method Blank	Dissolved	Water	7470A	597455
LCS 280-597455/2-E	Lab Control Sample	Dissolved	Water	7470A	597455

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Metals

Prep Batch: 597896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total Recoverable	Water	3005A	
280-170243-2	MW-9	Total Recoverable	Water	3005A	
MB 280-597896/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-597896/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 597997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	7470A	597872
MB 280-597455/1-E	Method Blank	Dissolved	Water	7470A	597872
LCS 280-597455/2-E	Lab Control Sample	Dissolved	Water	7470A	597872

Analysis Batch: 598107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	6020B	597090
MB 280-596890/1-C	Method Blank	Dissolved	Water	6020B	597090
LCS 280-596890/2-C	Lab Control Sample	Dissolved	Water	6020B	597090

Analysis Batch: 598120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	6020B	597090
280-170243-1	MW-8	Total Recoverable	Water	6020B	597896
280-170243-1	MW-8	Total Recoverable	Water	6020B	597896
280-170243-2	MW-9	Total Recoverable	Water	6020B	597896
MB 280-597896/1-A	Method Blank	Total Recoverable	Water	6020B	597896
LCS 280-597896/2-A	Lab Control Sample	Total Recoverable	Water	6020B	597896

Analysis Batch: 598404

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Dissolved	Water	6010C	597089
MB 280-596890/1-B	Method Blank	Dissolved	Water	6010C	597089
LCS 280-596890/2-B	Lab Control Sample	Dissolved	Water	6010C	597089

General Chemistry

Analysis Batch: 596515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	SM 2540D	
MB 280-596515/2	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-596515/1	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 596623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	SM 2320B	
280-170243-2	MW-9	Total/NA	Water	SM 2320B	
MB 280-596623/32	Method Blank	Total/NA	Water	SM 2320B	
MB 280-596623/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-596623/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 280-596623/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-596623/5	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

General Chemistry

Analysis Batch: 596685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	SM 2540C	
280-170243-2	MW-9	Total/NA	Water	SM 2540C	
MB 280-596685/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-596685/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 597008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-2	MW-9	Total/NA	Water	SM 2540D	
MB 280-597008/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-597008/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-597008/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 597408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	9040B	
280-170243-2	MW-9	Total/NA	Water	9040B	
LCS 280-597408/57	Lab Control Sample	Total/NA	Water	9040B	

Analysis Batch: 597496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	9056A	
280-170243-2	MW-9	Total/NA	Water	9056A	
MB 280-597496/95	Method Blank	Total/NA	Water	9056A	
LCS 280-597496/93	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-597496/94	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-597496/10	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 597638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-1	MW-8	Total/NA	Water	9056A	
280-170243-2	MW-9	Total/NA	Water	9056A	
MB 280-597638/39	Method Blank	Total/NA	Water	9056A	
LCS 280-597638/37	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-597638/38	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-597638/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 597760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-170243-2	MW-9	Total/NA	Water	9056A	
MB 280-597760/6	Method Blank	Total/NA	Water	9056A	
LCS 280-597760/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-597760/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-597760/3	Lab Control Sample	Total/NA	Water	9056A	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Client Sample ID: MW-8

Date Collected: 12/08/22 16:00

Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-1

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			250 mL	250 mL	596890	12/15/22 16:56	DNM	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	597089	12/20/22 08:08	LJS	EET DEN
Dissolved	Analysis	6010C		1			597844	12/27/22 14:29	LMT	EET DEN
Dissolved	Filtration	FILTRATION			250 mL	250 mL	596890	12/15/22 16:56	DNM	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	597089	12/20/22 08:08	LJS	EET DEN
Dissolved	Analysis	6010C		2			598404	01/03/23 13:37	KRP	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	596693	12/15/22 16:37	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			597034	12/16/22 18:24	KRP	EET DEN
Dissolved	Filtration	FILTRATION			250 mL	250 mL	596890	12/15/22 16:56	DNM	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	597090	12/20/22 08:20	LJS	EET DEN
Dissolved	Analysis	6020B		50			597566	12/21/22 17:54	LMT	EET DEN
Dissolved	Filtration	FILTRATION			250 mL	250 mL	596890	12/15/22 16:56	DNM	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	597090	12/20/22 08:20	LJS	EET DEN
Dissolved	Analysis	6020B		50			598107	12/29/22 16:22	LMT	EET DEN
Dissolved	Filtration	FILTRATION			250 mL	250 mL	596890	12/15/22 16:56	DNM	EET DEN
Dissolved	Prep	3005A			50 mL	50 mL	597090	12/20/22 08:20	LJS	EET DEN
Dissolved	Analysis	6020B		5			598120	12/29/22 17:41	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	596683	12/16/22 07:34	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			597566	12/21/22 15:42	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	597896	12/29/22 08:16	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			598120	12/29/22 16:56	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	597896	12/29/22 08:16	LJS	EET DEN
Total Recoverable	Analysis	6020B		5			598120	12/29/22 18:03	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	596683	12/16/22 07:34	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			597258	12/19/22 18:21	LMT	EET DEN
Dissolved	Filtration	FILTRATION			250 mL	250 mL	597455	12/21/22 10:34	DNM	EET DEN
Dissolved	Prep	7470A			30 mL	50 mL	597872	12/28/22 13:05	KMS	EET DEN
Dissolved	Analysis	7470A		1			597997	12/28/22 20:42	KMS	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	596561	12/13/22 18:50	KMS	EET DEN
Total/NA	Analysis	7470A		1			596791	12/14/22 21:11	KMS	EET DEN
Total/NA	Analysis	9040B		1			597408	12/20/22 17:50	KEG	EET DEN
Total/NA	Analysis	9056A		1000	5 mL	5 mL	597638	12/23/22 01:57	MEC	EET DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	597496	12/22/22 05:29	MEC	EET DEN
Total/NA	Analysis	SM 2320B		1			596623	12/13/22 17:06	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	596685	12/14/22 11:54	ASP	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	596515	12/13/22 12:01	ASP	EET DEN

Client Sample ID: MW-9

Date Collected: 12/09/22 14:00

Date Received: 12/12/22 08:30

Lab Sample ID: 280-170243-2

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	596693	12/15/22 16:37	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			597034	12/16/22 18:44	KRP	EET DEN

Eurofins Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

Client Sample ID: MW-9

Lab Sample ID: 280-170243-2

Date Collected: 12/09/22 14:00

Matrix: Water

Date Received: 12/12/22 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	596683	12/16/22 07:34	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			597566	12/21/22 15:46	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	597896	12/29/22 08:16	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			598120	12/29/22 17:00	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	596683	12/16/22 07:34	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			597258	12/19/22 18:23	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	596561	12/13/22 18:50	KMS	EET DEN
Total/NA	Analysis	7470A		1			596791	12/14/22 21:24	KMS	EET DEN
Total/NA	Analysis	9040B		1			597408	12/20/22 17:54	KEG	EET DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	597638	12/23/22 02:42	MEC	EET DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	597760	12/27/22 17:22	MEC	EET DEN
Total/NA	Analysis	9056A		50	10 mL	10 mL	597496	12/22/22 06:01	MEC	EET DEN
Total/NA	Analysis	SM 2320B		1			596623	12/13/22 17:22	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	596685	12/14/22 11:54	ASP	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	597008	12/16/22 14:10	ASP	EET DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-170243-1

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
6020B	3005A	Water	Calcium
6020B	3005A	Water	Magnesium
6020B	3005A	Water	Potassium
6020B	3005A	Water	Sodium
9040B		Water	Temperature

Environment Testing America

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-170243-1

Login Number: 170243

List Number: 1

Creator: Held, Wesley

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	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.	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 $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 24, 2023

Sierra Schupp
HDR
1670 Broadway Ste 3400
Denver, CO 80202

Work Order: **HS23010722**

Laboratory Results for: **Comanche ASD**

Dear Sierra Schupp,

ALS Environmental received 4 sample(s) on Jan 11, 2023 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER

Tyler Monroe

Client: HDR
Project: Comanche ASD
Work Order: HS23010722

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS23010722-01	MW-8 (1-4')	Soil		07-Nov-2022 00:00	11-Jan-2023 09:31	☐
HS23010722-02	MW-8 (7-10')	Soil		07-Nov-2022 00:00	11-Jan-2023 09:31	☐
HS23010722-03	MW-9 (0-1')	Soil		08-Nov-2022 00:00	11-Jan-2023 09:31	☐
HS23010722-04	MW-9 ((1-4')	Soil		08-Nov-2022 00:00	11-Jan-2023 09:31	☐

Client: HDR
Project: Comanche ASD
Work Order: HS23010722

CASE NARRATIVE

Metals by Method SW7470A**Batch ID: 188651****Sample ID: MW-8 (1-4') (HS23010722-01)**

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-8 (7-10') (HS23010722-02)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-9 ((1-4') (HS23010722-04)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-9 (0-1') (HS23010722-03)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Metals by Method SW7471B**Batch ID: 188538****Sample ID: MW-8 (1-4') (HS23010722-01)**

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-8 (7-10') (HS23010722-02)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-9 ((1-4') (HS23010722-04)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Sample ID: MW-9 (0-1') (HS23010722-03)

- Sample was analyzed outside of the holding time at the request of the client. Results should be considered estimated.

Metals by Method SW6020A**Batch ID: 188545****Sample ID: MW-8 (1-4') (HS23010722-01MS)**

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount. Calcium.

Batch ID: 188467**Sample ID: HS23010299-02MS**

- MS and MSD are for an unrelated sample

Client: HDR
Project: Comanche ASD
Work Order: HS23010722

CASE NARRATIVE

WetChemistry by Method SW9056**Batch ID: R426080****Sample ID: MW-8 (1-4') (HS23010722-01)**

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: MW-8 (7-10') (HS23010722-02)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.
- The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Fluoride)

Sample ID: MW-9 ((1-4') (HS23010722-04)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.
- The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Fluoride)

Sample ID: MW-9 (0-1') (HS23010722-03)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Batch ID: 188511**Sample ID: HS23010720-01MS**

- MS and MSD are for an unrelated sample (Fluoride)

Sample ID: MW-8 (1-4') (HS23010722-01)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: MW-8 (7-10') (HS23010722-02)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: MW-9 ((1-4') (HS23010722-04)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Sample ID: MW-9 (0-1') (HS23010722-03)

- Sample holding time expired prior to sample receipt. It was analyzed at the request of the client. Results should be considered estimated.

Client: HDR
 Project: Comanche ASD
 Sample ID: MW-8 (1-4')
 Collection Date: 07-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
 Lab ID:HS23010722-01
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP METALS BY SW6020A	Method:SW6020A		Leache:SW1312 / 18-Jan-2023	Prep:SW3010A / 18-Jan-2023		Analyst: JC
Antimony	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Arsenic	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Barium	0.0274		0.0200	mg/L	1	19-Jan-2023 13:44
Beryllium	ND		0.00200	mg/L	1	19-Jan-2023 13:44
Boron	0.142		0.0500	mg/L	1	19-Jan-2023 13:44
Cadmium	ND		0.00200	mg/L	1	19-Jan-2023 13:44
Calcium	290		5.00	mg/L	10	19-Jan-2023 15:16
Chromium	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Cobalt	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Lead	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Lithium	0.00727		0.00500	mg/L	1	19-Jan-2023 13:44
Molybdenum	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Selenium	ND		0.00500	mg/L	1	19-Jan-2023 13:44
Thallium	ND		0.00200	mg/L	1	19-Jan-2023 13:44
METALS BY SW6020A	Method:SW6020A			Prep:SW3050B / 18-Jan-2023		Analyst: JC
Antimony	ND		0.455	mg/Kg	1	19-Jan-2023 15:54
Arsenic	8.45		0.455	mg/Kg	1	19-Jan-2023 15:54
Barium	178		4.55	mg/Kg	10	19-Jan-2023 16:47
Beryllium	0.553		0.455	mg/Kg	1	19-Jan-2023 15:54
Boron	18.5		2.28	mg/Kg	1	19-Jan-2023 15:54
Cadmium	1.17		0.455	mg/Kg	1	19-Jan-2023 15:54
Calcium	29,900		455	mg/Kg	10	19-Jan-2023 16:47
Chromium	12.0		0.455	mg/Kg	1	19-Jan-2023 15:54
Cobalt	5.34		0.455	mg/Kg	1	19-Jan-2023 15:54
Lead	20.8		0.455	mg/Kg	1	19-Jan-2023 15:54
Lithium	11.8		0.455	mg/Kg	1	19-Jan-2023 15:54
Molybdenum	2.19		0.455	mg/Kg	1	19-Jan-2023 15:54
Selenium	2.53		0.455	mg/Kg	1	19-Jan-2023 15:54
Thallium	ND		0.455	mg/Kg	1	19-Jan-2023 15:54
SPLP MERCURY BY SW7470A	Method:SW7470A		Leache:SW1312 / 18-Jan-2023	Prep:SW7470A / 20-Jan-2023		Analyst: JS
Mercury	ND	H	0.000200	mg/L	1	20-Jan-2023 14:27
MERCURY BY SW7471B	Method:SW7471B			Prep:SW7471B / 18-Jan-2023		Analyst: JS
Mercury	35.1	H	3.46	ug/Kg	1	18-Jan-2023 17:38
SPLP ANIONS BY SW9056A	Method:SW9056		Leache:SW1312 / 18-Jan-2023	Prep:SW1312		Analyst: TH
Chloride	ND	H	5.00	mg/L	10	18-Jan-2023 17:25
Fluoride	ND	H	1.00	mg/L	10	18-Jan-2023 17:25
Sulfate	2,020	H	100	mg/L	200	18-Jan-2023 17:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client:	HDR	ANALYTICAL REPORT
Project:	Comanche ASD	WorkOrder:HS23010722
Sample ID:	MW-8 (1-4')	Lab ID:HS23010722-01
Collection Date:	07-Nov-2022 00:00	Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	Method:SW9056			Prep:SW9056 / 18-Jan-2023		Analyst: TH
Chloride	62.7	H	4.79	mg/Kg	1	23-Jan-2023 16:30
Fluoride	3.76	H	0.958	mg/Kg	1	23-Jan-2023 16:30
Sulfate	10,100	H	95.8	mg/Kg	20	23-Jan-2023 19:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
 Project: Comanche ASD
 Sample ID: MW-8 (7-10')
 Collection Date: 07-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
 Lab ID:HS23010722-02
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP METALS BY SW6020A	Method:SW6020A		Leache:SW1312 / 18-Jan-2023	Prep:SW3010A / 18-Jan-2023		Analyst: JC
Antimony	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Arsenic	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Barium	0.0325		0.0200	mg/L	1	19-Jan-2023 13:54
Beryllium	ND		0.00200	mg/L	1	19-Jan-2023 13:54
Boron	0.161		0.0500	mg/L	1	19-Jan-2023 13:54
Cadmium	ND		0.00200	mg/L	1	19-Jan-2023 13:54
Calcium	371		5.00	mg/L	10	19-Jan-2023 15:21
Chromium	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Cobalt	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Lead	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Lithium	0.0155		0.00500	mg/L	1	19-Jan-2023 13:54
Molybdenum	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Selenium	ND		0.00500	mg/L	1	19-Jan-2023 13:54
Thallium	ND		0.00200	mg/L	1	19-Jan-2023 13:54
METALS BY SW6020A	Method:SW6020A			Prep:SW3050B / 18-Jan-2023		Analyst: JC
Antimony	ND		0.478	mg/Kg	1	19-Jan-2023 15:56
Arsenic	10.1		0.478	mg/Kg	1	19-Jan-2023 15:56
Barium	170		0.478	mg/Kg	1	19-Jan-2023 15:56
Beryllium	0.545		0.478	mg/Kg	1	19-Jan-2023 15:56
Boron	17.5		2.39	mg/Kg	1	19-Jan-2023 15:56
Cadmium	1.18		0.478	mg/Kg	1	19-Jan-2023 15:56
Calcium	22,400		478	mg/Kg	10	19-Jan-2023 16:49
Chromium	13.1		0.478	mg/Kg	1	19-Jan-2023 15:56
Cobalt	7.43		0.478	mg/Kg	1	19-Jan-2023 15:56
Lead	20.6		0.478	mg/Kg	1	19-Jan-2023 15:56
Lithium	10.9		0.478	mg/Kg	1	19-Jan-2023 15:56
Molybdenum	2.08		0.478	mg/Kg	1	19-Jan-2023 15:56
Selenium	3.06		0.478	mg/Kg	1	19-Jan-2023 15:56
Thallium	ND		0.478	mg/Kg	1	19-Jan-2023 15:56
SPLP MERCURY BY SW7470A	Method:SW7470A		Leache:SW1312 / 18-Jan-2023	Prep:SW7470A / 20-Jan-2023		Analyst: JS
Mercury	ND	H	0.000200	mg/L	1	20-Jan-2023 14:29
MERCURY BY SW7471B	Method:SW7471B			Prep:SW7471B / 18-Jan-2023		Analyst: JS
Mercury	42.1	H	3.52	ug/Kg	1	18-Jan-2023 17:43
SPLP ANIONS BY SW9056A	Method:SW9056		Leache:SW1312 / 18-Jan-2023	Prep:SW1312		Analyst: TH
Chloride	ND	H	5.00	mg/L	10	18-Jan-2023 17:36
Fluoride	ND	H	1.00	mg/L	10	18-Jan-2023 17:36
Sulfate	3,350	H	100	mg/L	200	18-Jan-2023 17:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
Project: Comanche ASD
Sample ID: MW-8 (7-10')
Collection Date: 07-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
Lab ID:HS23010722-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	Method:SW9056			Prep:SW9056 / 18-Jan-2023		Analyst: TH
Chloride	47.8	H	4.87	mg/Kg	1	23-Jan-2023 16:36
Fluoride	2.91	H	0.975	mg/Kg	1	23-Jan-2023 16:36
Sulfate	5,170	H	48.7	mg/Kg	10	23-Jan-2023 19:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
 Project: Comanche ASD
 Sample ID: MW-9 (0-1')
 Collection Date: 08-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
 Lab ID:HS23010722-03
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP METALS BY SW6020A		Method:SW6020A	Leache:SW1312 / 18-Jan-2023	Prep:SW3010A / 18-Jan-2023	Analyst: JC	
Antimony	ND		0.00500	mg/L	1	19-Jan-2023 13:56
Arsenic	0.00605		0.00500	mg/L	1	19-Jan-2023 13:56
Barium	0.0369		0.0200	mg/L	1	19-Jan-2023 13:56
Beryllium	ND		0.00200	mg/L	1	19-Jan-2023 13:56
Boron	0.261		0.0500	mg/L	1	19-Jan-2023 13:56
Cadmium	ND		0.00200	mg/L	1	19-Jan-2023 13:56
Calcium	134		0.500	mg/L	1	19-Jan-2023 13:56
Chromium	ND		0.00500	mg/L	1	19-Jan-2023 13:56
Cobalt	ND		0.00500	mg/L	1	19-Jan-2023 13:56
Lead	ND		0.00500	mg/L	1	19-Jan-2023 13:56
Lithium	0.0153		0.00500	mg/L	1	19-Jan-2023 13:56
Molybdenum	0.0113		0.00500	mg/L	1	19-Jan-2023 13:56
Selenium	ND		0.00500	mg/L	1	19-Jan-2023 13:56
Thallium	ND		0.00200	mg/L	1	19-Jan-2023 13:56
METALS BY SW6020A		Method:SW6020A		Prep:SW3050B / 18-Jan-2023	Analyst: JC	
Antimony	ND		0.463	mg/Kg	1	19-Jan-2023 15:58
Arsenic	6.42		0.463	mg/Kg	1	19-Jan-2023 15:58
Barium	148		0.463	mg/Kg	1	19-Jan-2023 15:58
Beryllium	0.714		0.463	mg/Kg	1	19-Jan-2023 15:58
Boron	15.2		2.32	mg/Kg	1	19-Jan-2023 15:58
Cadmium	1.00		0.463	mg/Kg	1	19-Jan-2023 15:58
Calcium	18,600		463	mg/Kg	10	19-Jan-2023 16:51
Chromium	12.7		0.463	mg/Kg	1	19-Jan-2023 15:58
Cobalt	6.46		0.463	mg/Kg	1	19-Jan-2023 15:58
Lead	21.6		0.463	mg/Kg	1	19-Jan-2023 15:58
Lithium	12.5		0.463	mg/Kg	1	19-Jan-2023 15:58
Molybdenum	0.553		0.463	mg/Kg	1	19-Jan-2023 15:58
Selenium	1.32		0.463	mg/Kg	1	19-Jan-2023 15:58
Thallium	ND		0.463	mg/Kg	1	19-Jan-2023 15:58
SPLP MERCURY BY SW7470A		Method:SW7470A	Leache:SW1312 / 18-Jan-2023	Prep:SW7470A / 20-Jan-2023	Analyst: JS	
Mercury	ND	H	0.000200	mg/L	1	20-Jan-2023 14:56
MERCURY BY SW7471B		Method:SW7471B		Prep:SW7471B / 18-Jan-2023	Analyst: JS	
Mercury	11.5	H	3.43	ug/Kg	1	18-Jan-2023 17:45
SPLP ANIONS BY SW9056A		Method:SW9056	Leache:SW1312 / 18-Jan-2023	Prep:SW1312	Analyst: TH	
Chloride	7.29	H	5.00	mg/L	10	18-Jan-2023 17:57
Fluoride	ND	H	1.00	mg/L	10	18-Jan-2023 17:57
Sulfate	723	H	5.00	mg/L	10	18-Jan-2023 17:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
Project: Comanche ASD
Sample ID: MW-9 (0-1')
Collection Date: 08-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
Lab ID:HS23010722-03
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	Method:SW9056			Prep:SW9056 / 18-Jan-2023		Analyst: TH
Chloride	92.4	H	4.88	mg/Kg	1	23-Jan-2023 16:42
Fluoride	4.89	H	0.977	mg/Kg	1	23-Jan-2023 16:42
Sulfate	2,890	H	24.4	mg/Kg	5	23-Jan-2023 19:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
 Project: Comanche ASD
 Sample ID: MW-9 ((1-4'))
 Collection Date: 08-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
 Lab ID:HS23010722-04
 Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
SPLP METALS BY SW6020A		Method:SW6020A	Leache:SW1312 / 18-Jan-2023	Prep:SW3010A / 18-Jan-2023	Analyst: JC	
Antimony	ND		0.00500	mg/L	1	19-Jan-2023 13:58
Arsenic	0.00878		0.00500	mg/L	1	19-Jan-2023 13:58
Barium	ND		0.0200	mg/L	1	19-Jan-2023 13:58
Beryllium	ND		0.00200	mg/L	1	19-Jan-2023 13:58
Boron	0.244		0.0500	mg/L	1	19-Jan-2023 13:58
Cadmium	ND		0.00200	mg/L	1	19-Jan-2023 13:58
Calcium	58.1		0.500	mg/L	1	19-Jan-2023 13:58
Chromium	ND		0.00500	mg/L	1	19-Jan-2023 13:58
Cobalt	ND		0.00500	mg/L	1	19-Jan-2023 13:58
Lead	ND		0.00500	mg/L	1	19-Jan-2023 13:58
Lithium	0.0131		0.00500	mg/L	1	19-Jan-2023 13:58
Molybdenum	0.0233		0.00500	mg/L	1	19-Jan-2023 13:58
Selenium	ND		0.00500	mg/L	1	19-Jan-2023 13:58
Thallium	ND		0.00200	mg/L	1	19-Jan-2023 13:58
METALS BY SW6020A		Method:SW6020A		Prep:SW3050B / 18-Jan-2023	Analyst: JC	
Antimony	ND		0.468	mg/Kg	1	19-Jan-2023 16:00
Arsenic	6.84		0.468	mg/Kg	1	19-Jan-2023 16:00
Barium	181		4.68	mg/Kg	10	19-Jan-2023 16:53
Beryllium	0.811		0.468	mg/Kg	1	19-Jan-2023 16:00
Boron	14.7		2.34	mg/Kg	1	19-Jan-2023 16:00
Cadmium	0.823		0.468	mg/Kg	1	19-Jan-2023 16:00
Calcium	21,700		468	mg/Kg	10	19-Jan-2023 16:53
Chromium	15.5		0.468	mg/Kg	1	19-Jan-2023 16:00
Cobalt	7.68		0.468	mg/Kg	1	19-Jan-2023 16:00
Lead	16.3		0.468	mg/Kg	1	19-Jan-2023 16:00
Lithium	15.7		0.468	mg/Kg	1	19-Jan-2023 16:00
Molybdenum	1.51		0.468	mg/Kg	1	19-Jan-2023 16:00
Selenium	1.56		0.468	mg/Kg	1	19-Jan-2023 16:00
Thallium	ND		0.468	mg/Kg	1	19-Jan-2023 16:00
SPLP MERCURY BY SW7470A		Method:SW7470A	Leache:SW1312 / 18-Jan-2023	Prep:SW7470A / 20-Jan-2023	Analyst: JS	
Mercury	ND	H	0.000200	mg/L	1	20-Jan-2023 14:58
MERCURY BY SW7471B		Method:SW7471B		Prep:SW7471B / 18-Jan-2023	Analyst: JS	
Mercury	7.38	H	3.41	ug/Kg	1	18-Jan-2023 17:46
SPLP ANIONS BY SW9056A		Method:SW9056	Leache:SW1312 / 18-Jan-2023	Prep:SW1312	Analyst: TH	
Chloride	15.6	H	5.00	mg/L	10	18-Jan-2023 18:07
Fluoride	ND	H	1.00	mg/L	10	18-Jan-2023 18:07
Sulfate	804	H	5.00	mg/L	10	18-Jan-2023 18:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: HDR
Project: Comanche ASD
Sample ID: MW-9 ((1-4'))
Collection Date: 08-Nov-2022 00:00

ANALYTICAL REPORT

WorkOrder:HS23010722
Lab ID:HS23010722-04
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	Method:SW9056			Prep:SW9056 / 18-Jan-2023		Analyst: TH
Chloride	263	H	4.72	mg/Kg	1	23-Jan-2023 16:48
Fluoride	2.35	H	0.944	mg/Kg	1	23-Jan-2023 16:48
Sulfate	4,110	H	47.2	mg/Kg	10	24-Jan-2023 07:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

Batch ID: 188467 **Start Date:** 18 Jan 2023 08:00 **End Date:** 18 Jan 2023 14:00
Method: METALS PREP - SOLIDS - SW3050B **Prep Code:** 3050_I_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		0.5494 (g)	50 (mL)	91.01	Ziplock Bag
HS23010722-02		0.5233 (g)	50 (mL)	95.55	Ziplock Bag
HS23010722-03		0.5394 (g)	50 (mL)	92.7	Ziplock Bag
HS23010722-04		0.534 (g)	50 (mL)	93.63	Ziplock Bag

Batch ID: 188511 **Start Date:** 18 Jan 2023 09:19 **End Date:** 18 Jan 2023 10:15
Method: 9056 ANIONS SOIL PREP **Prep Code:** 9056_S_PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		5.2216 (g)	50 (mL)	9.576	Ziplock Bag
HS23010722-02		5.1287 (g)	50 (mL)	9.749	Ziplock Bag
HS23010722-03		5.1194 (g)	50 (mL)	9.767	Ziplock Bag
HS23010722-04		5.2985 (g)	50 (mL)	9.437	Ziplock Bag

Batch ID: 188520 **Start Date:** 17 Jan 2023 15:00 **End Date:** 18 Jan 2023 08:00
Method: SPLP WET CHEM EXTRACTION BY SW1312 **Prep Code:** 1312L_WETCHEM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-02		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-03		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-04		25 (grams)	500 (mL)	20	Ziplock Bag

Batch ID: 188521 **Start Date:** 17 Jan 2023 15:00 **End Date:** 18 Jan 2023 08:00
Method: SPLP MERCURY EXTRACTION BY SW1312 **Prep Code:** 1312LM HG

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-02		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-03		25 (grams)	500 (mL)	20	Ziplock Bag
HS23010722-04		25 (grams)	500 (mL)	20	Ziplock Bag

Batch ID: 188522 **Start Date:** 17 Jan 2023 15:00 **End Date:** 18 Jan 2023 08:00
Method: SPLP METALS EXTRACTION BY SW1312 **Prep Code:** 1312LM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		25 (g)	500 (mL)	20	Ziplock Bag
HS23010722-02		25 (g)	500 (mL)	20	Ziplock Bag
HS23010722-03		25 (g)	500 (mL)	20	Ziplock Bag
HS23010722-04		25 (g)	500 (mL)	20	Ziplock Bag

Weight / Prep Log

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

Batch ID: 188538 **Start Date:** 18 Jan 2023 12:00 **End Date:** 18 Jan 2023 14:00
Method: MERCURY PREP - SOLID - 7471B **Prep Code:** HG_S_LOWPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		0.5766 (grams)	40 (mL)	69.37	Ziplock Bag
HS23010722-02		0.567 (grams)	40 (mL)	70.55	Ziplock Bag
HS23010722-03		0.582 (grams)	40 (mL)	68.73	Ziplock Bag
HS23010722-04		0.5857 (grams)	40 (mL)	68.29	Ziplock Bag

Batch ID: 188545 **Start Date:** 18 Jan 2023 11:00 **End Date:** 18 Jan 2023 15:00
Method: SPLP LEACHATE DIGESTION BY SW3010A **Prep Code:** 3010A_SPLP

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-02		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-03		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-04		10 (mL)	10 (mL)	1	Ziplock Bag

Batch ID: 188651 **Start Date:** 20 Jan 2023 08:30 **End Date:** 20 Jan 2023 11:30
Method: SPLP MERCURY PREP BY SW7470A **Prep Code:** 1312_HGPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor	
HS23010722-01		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-02		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-03		10 (mL)	10 (mL)	1	Ziplock Bag
HS23010722-04		10 (mL)	10 (mL)	1	Ziplock Bag

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 188467 (0)		Test Name : METALS BY SW6020A			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 16:47	10
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 15:54	1
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 16:49	10
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 15:56	1
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 16:51	10
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 15:58	1
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 16:53	10
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00		18 Jan 2023 08:00	19 Jan 2023 16:00	1
Batch ID: 188511 (0)		Test Name : ANIONS BY SW9056A			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 19:42	20
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 16:30	1
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 19:48	10
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 16:36	1
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 19:54	5
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 16:42	1
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00		18 Jan 2023 09:19	24 Jan 2023 07:42	10
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00		18 Jan 2023 09:19	23 Jan 2023 16:48	1
Batch ID: 188538 (0)		Test Name : MERCURY BY SW7471B			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00		18 Jan 2023 12:00	18 Jan 2023 17:38	1
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00		18 Jan 2023 12:00	18 Jan 2023 17:43	1
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00		18 Jan 2023 12:00	18 Jan 2023 17:45	1
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00		18 Jan 2023 12:00	18 Jan 2023 17:46	1
Batch ID: 188545 (0)		Test Name : SPLP METALS BY SW6020A			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 15:16	10
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 13:44	1
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 15:21	10
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 13:54	1
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 13:56	1
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00	18 Jan 2023 08:00	18 Jan 2023 11:00	19 Jan 2023 13:58	1
Batch ID: 188651 (0)		Test Name : SPLP MERCURY BY SW7470A			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00	18 Jan 2023 08:00	20 Jan 2023 08:30	20 Jan 2023 14:27	1
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00	18 Jan 2023 08:00	20 Jan 2023 08:30	20 Jan 2023 14:29	1
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00	18 Jan 2023 08:00	20 Jan 2023 08:30	20 Jan 2023 14:56	1
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00	18 Jan 2023 08:00	20 Jan 2023 08:30	20 Jan 2023 14:58	1

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R426080 (0)		Test Name : SPLP ANIONS BY SW9056A			Matrix: Soil	
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 17:30	200
HS23010722-01	MW-8 (1-4')	07 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 17:25	10
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 17:52	200
HS23010722-02	MW-8 (7-10')	07 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 17:36	10
HS23010722-03	MW-9 (0-1')	08 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 17:57	10
HS23010722-04	MW-9 ((1-4')	08 Nov 2022 00:00	18 Jan 2023 08:00		18 Jan 2023 18:07	10

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188467 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A					
MBLK	Sample ID: MBLK-188467	Units: mg/Kg		Analysis Date: 19-Jan-2023 15:31					
Client ID:	Run ID: ICPMS06_426095	SeqNo: 7079782		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	ND	0.495							
Arsenic	ND	0.495							
Barium	ND	0.495							
Beryllium	ND	0.495							
Boron	ND	2.47							
Cadmium	ND	0.495							
Calcium	ND	49.5							
Chromium	ND	0.495							
Cobalt	ND	0.495							
Lead	ND	0.495							
Lithium	ND	0.495							
Molybdenum	ND	0.495							
Selenium	ND	0.495							
Thallium	ND	0.495							

LCS	Sample ID: LCS-188467	Units: mg/Kg		Analysis Date: 19-Jan-2023 15:33					
Client ID:	Run ID: ICPMS06_426095	SeqNo: 7079783		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	11.05	0.498	9.962	0	111	80 - 120			
Arsenic	10.76	0.498	9.962	0	108	80 - 120			
Barium	10.89	0.498	9.962	0	109	80 - 120			
Beryllium	10.31	0.498	9.962	0	103	80 - 120			
Cadmium	10.55	0.498	9.962	0	106	80 - 120			
Calcium	1078	49.8	996.2	0	108	80 - 120			
Chromium	11.1	0.498	9.962	0	111	80 - 120			
Cobalt	10.81	0.498	9.962	0	108	80 - 120			
Lead	10.85	0.498	9.962	0	109	80 - 120			
Molybdenum	10.46	0.498	9.962	0	105	80 - 120			
Selenium	10.52	0.498	9.962	0	106	80 - 120			
Thallium	10.51	0.498	9.962	0	106	80 - 120			

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188467 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A					
LCS		Sample ID: LCS-188467	Units: mg/Kg		Analysis Date: 19-Jan-2023 16:41				
Client ID:		Run ID: ICPMS06_426095		SeqNo: 7079941		PrepDate: 18-Jan-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Boron	49.31	2.49	49.81	0	99.0	80 - 120			
Lithium	10.35	0.498	9.962	0	104	80 - 120			

MS		Sample ID: HS23010299-02MS	Units: mg/Kg		Analysis Date: 19-Jan-2023 15:39				
Client ID:		Run ID: ICPMS06_426095		SeqNo: 7079786		PrepDate: 18-Jan-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Antimony	5.083	0.469	9.383	0.04105	53.7	75 - 125			S
Arsenic	9.055	0.469	9.383	0.2022	94.4	75 - 125			
Barium	39.95	0.469	9.383	31.07	94.7	75 - 125			
Beryllium	9.797	0.469	9.383	0.3075	101	75 - 125			
Boron	57.42	2.35	46.91	3.104	116	75 - 125			
Cadmium	9.559	0.469	9.383	0.005675	102	75 - 125			
Calcium	1698	46.9	938.3	751.9	101	75 - 125			
Chromium	13.92	0.469	9.383	4.648	98.8	75 - 125			
Cobalt	10.61	0.469	9.383	0.952	103	75 - 125			
Lead	12.86	0.469	9.383	3.128	104	75 - 125			
Lithium	14.41	0.469	9.383	1.871	134	75 - 125			S
Molybdenum	8.5	0.469	9.383	0.1032	89.5	75 - 125			
Selenium	9.167	0.469	9.383	0.4774	92.6	75 - 125			
Thallium	9.349	0.469	9.383	0.1139	98.4	75 - 125			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188467 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A						
MSD		Sample ID: HS23010299-02MSD		Units: mg/Kg		Analysis Date: 19-Jan-2023 15:41				
Client ID:		Run ID: ICPMS06_426095		SeqNo: 7079787		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	5.305	0.462	9.237	0.04105	57.0	75 - 125	5.083	4.28	20	S
Arsenic	8.919	0.462	9.237	0.2022	94.4	75 - 125	9.055	1.51	20	
Barium	38.06	0.462	9.237	31.07	75.7	75 - 125	39.95	4.85	20	
Beryllium	9.473	0.462	9.237	0.3075	99.2	75 - 125	9.797	3.36	20	
Boron	56.63	2.31	46.19	3.104	116	75 - 125	57.42	1.37	20	
Cadmium	9.153	0.462	9.237	0.005675	99.0	75 - 125	9.559	4.34	20	
Calcium	1679	46.2	923.7	751.9	100	75 - 125	1698	1.11	20	
Chromium	14.12	0.462	9.237	4.648	103	75 - 125	13.92	1.42	20	
Cobalt	10.67	0.462	9.237	0.952	105	75 - 125	10.61	0.562	20	
Lead	12.66	0.462	9.237	3.128	103	75 - 125	12.86	1.56	20	
Lithium	12.67	0.462	9.237	1.871	117	75 - 125	14.41	12.8	20	
Molybdenum	8.205	0.462	9.237	0.1032	87.7	75 - 125	8.5	3.53	20	
Selenium	9.209	0.462	9.237	0.4774	94.5	75 - 125	9.167	0.45	20	
Thallium	9.184	0.462	9.237	0.1139	98.2	75 - 125	9.349	1.78	20	
PDS		Sample ID: HS23010299-02PDS		Units: mg/Kg		Analysis Date: 19-Jan-2023 15:43				
Client ID:		Run ID: ICPMS06_426095		SeqNo: 7079788		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	9.586	0.473	9.459	0	101	75 - 125				
Arsenic	9.58	0.473	9.459	0.2022	99.1	75 - 125				
Barium	40.09	0.473	9.459	31.07	95.4	75 - 125				
Beryllium	9.409	0.473	9.459	0.3075	96.2	75 - 125				
Boron	52.13	2.36	47.29	3.104	104	75 - 125				
Cadmium	9.353	0.473	9.459	0	98.9	75 - 125				
Calcium	1680	47.3	945.9	751.9	98.1	75 - 125				
Chromium	13.92	0.473	9.459	4.648	98.0	75 - 125				
Cobalt	10.48	0.473	9.459	0.952	101	75 - 125				
Lead	12.63	0.473	9.459	3.128	100	75 - 125				
Lithium	11.55	0.473	9.459	1.871	102	75 - 125				
Molybdenum	9.227	0.473	9.459	0.1032	96.5	75 - 125				
Selenium	9.765	0.473	9.459	0.4774	98.2	75 - 125				
Thallium	9.83	0.473	9.459	0	104	75 - 125				

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188467 (0)		Instrument: ICPMS06		Method: METALS BY SW6020A						
SD		Sample ID: HS23010299-02SD		Units: mg/Kg		Analysis Date: 19-Jan-2023 15:37				
Client ID:		Run ID: ICPMS06_426095		SeqNo: 7079785		PrepDate: 18-Jan-2023		DF: 5		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual
Antimony	ND	2.36					0.04105	0	10	
Arsenic	ND	2.36					0.2022	0	10	
Barium	31.58	2.36					31.07	1.63	10	
Beryllium	0.3004	2.36					0.3075	0	10	J
Boron	5.956	11.8					3.104	0	10	J
Cadmium	ND	2.36					0.005675	0	10	
Calcium	760	236					751.9	1.07	10	
Cobalt	0.9413	2.36					0.952	0	10	J
Lead	3.147	2.36					3.128	0.614	10	
Lithium	1.838	2.36					1.871	0	10	J
Molybdenum	0.1136	2.36					0.1032	0	10	J
Selenium	0.4411	2.36					0.4774	0	10	J
Thallium	ND	2.36					0.1139	0	10	
The following samples were analyzed in this batch:										
		HS23010722-01		HS23010722-02		HS23010722-03		HS23010722-04		

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188538 (0)		Instrument: HG04		Method: MERCURY BY SW7471B					
MBLK	Sample ID: MBLK-188538	Units: ug/Kg		Analysis Date: 18-Jan-2023 17:29					
Client ID:	Run ID: HG04_426062	SeqNo: 7078347		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	ND	3.32							
LCS	Sample ID: LCS-188538	Units: ug/Kg		Analysis Date: 18-Jan-2023 17:31					
Client ID:	Run ID: HG04_426062	SeqNo: 7078348		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	340	3.32	333.3	0	102	80 - 120			
MS	Sample ID: HS23010722-01MS	Units: ug/Kg		Analysis Date: 18-Jan-2023 17:40					
Client ID: MW-8 (1-4')	Run ID: HG04_426062	SeqNo: 7078350		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	391.3	3.54	355.1	35.1	100	80 - 120			
MSD	Sample ID: HS23010722-01MSD	Units: ug/Kg		Analysis Date: 18-Jan-2023 17:41					
Client ID: MW-8 (1-4')	Run ID: HG04_426062	SeqNo: 7078351		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Mercury	378.3	3.39	340.2	35.1	101	80 - 120	391.3	3.39	20
The following samples were analyzed in this batch:									
HS23010722-01		HS23010722-02		HS23010722-03		HS23010722-04			

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
MBLK	Sample ID: MBLKP2-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:16					
Client ID:	Run ID: ICPMS06_426095		SeqNo: 7079452		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	ND	0.00500							
Arsenic	ND	0.00500							
Barium	ND	0.0200							
Beryllium	ND	0.00200							
Boron	ND	0.0500							
Cadmium	ND	0.00200							
Calcium	ND	0.500							
Chromium	ND	0.00500							
Cobalt	ND	0.00500							
Lead	ND	0.00500							
Lithium	ND	0.00500							
Molybdenum	ND	0.00500							
Selenium	ND	0.00500							
Thallium	ND	0.00200							

MBLK	Sample ID: MBLKP4-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:20					
Client ID:	Run ID: ICPMS06_426095		SeqNo: 7079454		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	ND	0.00500							
Arsenic	ND	0.00500							
Barium	ND	0.0200							
Beryllium	ND	0.00200							
Boron	ND	0.0500							
Cadmium	ND	0.00200							
Calcium	ND	0.500							
Chromium	ND	0.00500							
Cobalt	ND	0.00500							
Lead	ND	0.00500							
Lithium	ND	0.00500							
Molybdenum	ND	0.00500							
Selenium	ND	0.00500							
Thallium	ND	0.00200							

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
MBLK	Sample ID: MBLKP3-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:18					
Client ID:	Run ID: ICPMS06_426095	SeqNo: 7079453		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	ND	0.00500							
Arsenic	ND	0.00500							
Barium	ND	0.0200							
Beryllium	ND	0.00200							
Boron	ND	0.0500							
Cadmium	ND	0.00200							
Calcium	ND	0.500							
Chromium	ND	0.00500							
Cobalt	ND	0.00500							
Lead	ND	0.00500							
Lithium	ND	0.00500							
Molybdenum	ND	0.00500							
Selenium	ND	0.00500							
Thallium	ND	0.00200							

MBLK	Sample ID: MBLKP1-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:14					
Client ID:	Run ID: ICPMS06_426095	SeqNo: 7079451		PrepDate: 18-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	ND	0.00500							
Arsenic	ND	0.00500							
Barium	ND	0.0200							
Beryllium	ND	0.00200							
Boron	ND	0.0500							
Cadmium	ND	0.00200							
Calcium	ND	0.500							
Chromium	ND	0.00500							
Cobalt	ND	0.00500							
Lead	ND	0.00500							
Lithium	ND	0.00500							
Molybdenum	ND	0.00500							
Selenium	ND	0.00500							
Thallium	ND	0.00200							

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
MBLK	Sample ID: MBLK-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:13					
Client ID:	Run ID: ICPMS06_426095		SeqNo: 7079450		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	ND	0.00500							
Arsenic	ND	0.00500							
Barium	ND	0.0200							
Beryllium	ND	0.00200							
Boron	ND	0.0500							
Cadmium	ND	0.00200							
Calcium	ND	0.500							
Chromium	ND	0.00500							
Cobalt	ND	0.00500							
Lead	ND	0.00500							
Lithium	ND	0.00500							
Molybdenum	ND	0.00500							
Selenium	ND	0.00500							
Thallium	ND	0.00200							

LCS	Sample ID: LCS-188545	Units: mg/L		Analysis Date: 19-Jan-2023 13:22					
Client ID:	Run ID: ICPMS06_426095		SeqNo: 7079455		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

Antimony	0.05434	0.00500	0.05	0	109	80 - 120			
Arsenic	0.05647	0.00500	0.05	0	113	80 - 120			
Barium	0.05479	0.0200	0.05	0	110	80 - 120			
Beryllium	0.0554	0.00200	0.05	0	111	80 - 120			
Boron	0.5767	0.0500	0.5	0	115	80 - 120			
Cadmium	0.05646	0.00200	0.05	0	113	80 - 120			
Calcium	5.845	0.500	5	0	117	80 - 120			
Chromium	0.0555	0.00500	0.05	0	111	80 - 120			
Cobalt	0.05564	0.00500	0.05	0	111	80 - 120			
Lead	0.05457	0.00500	0.05	0	109	80 - 120			
Lithium	0.1101	0.00500	0.1	0	110	80 - 120			
Molybdenum	0.05281	0.00500	0.05	0	106	80 - 120			
Selenium	0.05539	0.00500	0.05	0	111	80 - 120			
Thallium	0.04954	0.00200	0.05	0	99.1	80 - 120			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
MS		Sample ID: HS23010722-01MS		Units: mg/L		Analysis Date: 19-Jan-2023 13:48			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079465		PrepDate: 18-Jan-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05096	0.00500	0.05	0	102	80 - 120			
Arsenic	0.05221	0.00500	0.05	0.000875	103	80 - 120			
Barium	0.07662	0.0200	0.05	0.02737	98.5	80 - 120			
Beryllium	0.04916	0.00200	0.05	0	98.3	80 - 120			
Boron	0.6997	0.0500	0.5	0.1419	112	80 - 120			
Cadmium	0.04865	0.00200	0.05	0	97.3	80 - 120			
Calcium	278.2	0.500	2.5	298.4	-807	80 - 120			SEO
Chromium	0.04933	0.00500	0.05	0.000523	97.6	80 - 120			
Cobalt	0.0501	0.00500	0.05	0.000708	98.8	80 - 120			
Lead	0.05038	0.00500	0.05	0	101	80 - 120			
Lithium	0.1082	0.00500	0.1	0.007266	101	80 - 120			
Molybdenum	0.05069	0.00500	0.05	0.00394	93.5	80 - 120			
Selenium	0.05262	0.00500	0.05	0.003478	98.3	80 - 120			
Thallium	0.04972	0.00200	0.05	0	99.4	80 - 120			

MSD		Sample ID: HS23010722-01MSD		Units: mg/L		Analysis Date: 19-Jan-2023 13:50			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079466		PrepDate: 18-Jan-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.05179	0.00500	0.05	0	104	80 - 120	0.05096	1.63	20
Arsenic	0.0527	0.00500	0.05	0.000875	104	80 - 120	0.05221	0.944	20
Barium	0.07489	0.0200	0.05	0.02737	95.0	80 - 120	0.07662	2.28	20
Beryllium	0.04889	0.00200	0.05	0	97.8	80 - 120	0.04916	0.557	20
Boron	0.626	0.0500	0.5	0.1419	96.8	80 - 120	0.6997	11.1	20
Cadmium	0.0486	0.00200	0.05	0	97.2	80 - 120	0.04865	0.109	20
Calcium	283.1	0.500	2.5	298.4	-612	80 - 120	278.2	1.74	20 SEO
Chromium	0.05023	0.00500	0.05	0.000523	99.4	80 - 120	0.04933	1.81	20
Cobalt	0.05085	0.00500	0.05	0.000708	100	80 - 120	0.0501	1.47	20
Lead	0.05014	0.00500	0.05	0	100	80 - 120	0.05038	0.482	20
Lithium	0.1103	0.00500	0.1	0.007266	103	80 - 120	0.1082	1.93	20
Molybdenum	0.05108	0.00500	0.05	0.00394	94.3	80 - 120	0.05069	0.755	20
Selenium	0.05476	0.00500	0.05	0.003478	103	80 - 120	0.05262	3.98	20
Thallium	0.04523	0.00200	0.05	0	90.5	80 - 120	0.04972	9.44	20

Client: HDR
 Project: Comanche ASD
 WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
PDS		Sample ID: HS23010722-01PDS		Units: mg/L		Analysis Date: 19-Jan-2023 13:52			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079467		PrepDate: 18-Jan-2023		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Antimony	0.1045	0.00500	0.1	0.000189	104	75 - 125			
Arsenic	0.1101	0.00500	0.1	0.000875	109	75 - 125			
Barium	0.1343	0.0200	0.1	0.02737	107	75 - 125			
Beryllium	0.09876	0.00200	0.1	0.000001	98.8	75 - 125			
Boron	0.659	0.0500	0.5	0.1419	103	75 - 125			
Cadmium	0.1018	0.00200	0.1	0.000009	102	75 - 125			
Chromium	0.1039	0.00500	0.1	0.000523	103	75 - 125			
Cobalt	0.1048	0.00500	0.1	0.000708	104	75 - 125			
Lead	0.1017	0.00500	0.1	0.000257	101	75 - 125			
Lithium	0.1096	0.00500	0.1	0.007266	102	75 - 125			
Molybdenum	0.1042	0.00500	0.1	0.00394	100	75 - 125			
Selenium	0.1088	0.00500	0.1	0.003478	105	75 - 125			
Thallium	0.11	0.00200	0.1	-0.000003	110	75 - 125			
PDS		Sample ID: HS23010722-01PDS		Units: mg/L		Analysis Date: 19-Jan-2023 15:19			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079705		PrepDate: 18-Jan-2023		DF: 10	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Calcium	378.3	5.00	100	290.2	88.0	75 - 125			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188545 (0)		Instrument: ICPMS06		Method: SPLP METALS BY SW6020A					
SD		Sample ID: HS23010722-01SD		Units: mg/L		Analysis Date: 19-Jan-2023 13:46			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079464		PrepDate: 18-Jan-2023		DF: 5	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Antimony	ND	0.0250					0.000189	0	10
Arsenic	ND	0.0250					0.000875	0	10
Barium	0.02756	0.100					0.02737	0	10 J
Beryllium	ND	0.0100					0.000001	0	10
Boron	0.1747	0.250					0.1419	0	10 J
Cadmium	ND	0.0100					0.000009	0	10
Chromium	0.007222	0.0250					0.000523	0	10 J
Cobalt	ND	0.0250					0.000708	0	10
Lead	ND	0.0250					0.000257	0	10
Lithium	0.007757	0.0250					0.007266	0	10 J
Molybdenum	0.003917	0.0250					0.00394	0	10 J
Selenium	ND	0.0250					0.003478	0	10
Thallium	ND	0.0100					-0.000003	0	10
SD		Sample ID: HS23010722-01SD		Units: mg/L		Analysis Date: 19-Jan-2023 15:18			
Client ID: MW-8 (1-4')		Run ID: ICPMS06_426095		SeqNo: 7079704		PrepDate: 18-Jan-2023		DF: 50	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit Qual
Calcium	290.4	25.0					290.2	0.0702	10
The following samples were analyzed in this batch:									
HS23010722-01		HS23010722-02		HS23010722-03		HS23010722-04			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188651 (0)		Instrument: HG04		Method: SPLP MERCURY BY SW7470A						
MBLK	Sample ID: MBLK2-188651	Units: mg/L		Analysis Date: 20-Jan-2023 14:18						
Client ID:	Run ID: HG04_426209		SeqNo: 7081753		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	ND	0.000200								
MBLK	Sample ID: MBLK3-188651	Units: mg/L		Analysis Date: 20-Jan-2023 14:19						
Client ID:	Run ID: HG04_426209		SeqNo: 7081754		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	ND	0.000200								
MBLK	Sample ID: MBLK1-188651	Units: mg/L		Analysis Date: 20-Jan-2023 14:16						
Client ID:	Run ID: HG04_426209		SeqNo: 7081752		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	ND	0.000200								
MBLK	Sample ID: MBLK-188651	Units: mg/L		Analysis Date: 20-Jan-2023 14:13						
Client ID:	Run ID: HG04_426209		SeqNo: 7081750		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	ND	0.000200								
LCS	Sample ID: LCS-188651	Units: mg/L		Analysis Date: 20-Jan-2023 14:14						
Client ID:	Run ID: HG04_426209		SeqNo: 7081751		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	0.0055	0.000200	0.005	0	110	80 - 120				
MS	Sample ID: HS23010722-02MS	Units: mg/L		Analysis Date: 20-Jan-2023 17:10						
Client ID: MW-8 (7-10')	Run ID: HG04_426209		SeqNo: 7082123		PrepDate: 20-Jan-2023		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Mercury	0.00494	0.000200	0.005	0	98.8	75 - 125				

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188651 (0) **Instrument:** HG04 **Method:** SPLP MERCURY BY SW7470A

MSD	Sample ID: HS23010722-02MSD	Units: mg/L	Analysis Date: 20-Jan-2023 14:52							
Client ID: MW-8 (7-10')	Run ID: HG04_426209	SeqNo: 7081762	PrepDate: 20-Jan-2023 DF: 1							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0	99.4	75 - 125	0.00494	0.605	20	

The following samples were analyzed in this batch: HS23010722-01 HS23010722-02 HS23010722-03 HS23010722-04

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: 188511 (0)		Instrument: ICS-Integrion		Method: ANIONS BY SW9056A					
MBLK	Sample ID: MBLK-188511	Units: mg/Kg		Analysis Date: 23-Jan-2023 16:07					
Client ID:	Run ID: ICS-Integrion_426346		SeqNo: 7084580		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	ND	5.00							
Fluoride	ND	1.00							
Sulfate	ND	5.00							

LCS	Sample ID: LCS-188511	Units: mg/Kg		Analysis Date: 23-Jan-2023 16:19					
Client ID:	Run ID: ICS-Integrion_426346		SeqNo: 7084581		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	205.5	5.00	200	0	103	80 - 120			
Fluoride	43.47	1.00	40	0	109	80 - 120			
Sulfate	206.8	5.00	200	0	103	80 - 120			

MS	Sample ID: HS23010720-01MS	Units: mg/Kg		Analysis Date: 23-Jan-2023 17:00					
Client ID:	Run ID: ICS-Integrion_426346		SeqNo: 7084587		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	125.8	4.95	98.92	23.04	104	80 - 120			
Fluoride	16.77	0.989	19.78	1.892	75.2	80 - 120			S
Sulfate	126.6	4.95	98.92	37.25	90.3	80 - 120			

MSD	Sample ID: HS23010720-01MSD	Units: mg/Kg		Analysis Date: 23-Jan-2023 17:05					
Client ID:	Run ID: ICS-Integrion_426346		SeqNo: 7084588		PrepDate: 18-Jan-2023		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Chloride	120.9	4.79	95.85	23.04	102	80 - 120	125.8	3.93	20
Fluoride	15.56	0.958	19.17	1.892	71.3	80 - 120	16.77	7.49	20 S
Sulfate	121.4	4.79	95.85	37.25	87.8	80 - 120	126.6	4.19	20

The following samples were analyzed in this batch:									
HS23010722-01		HS23010722-02		HS23010722-03		HS23010722-04			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

QC BATCH REPORT

Batch ID: R426080 (0)		Instrument: ICS-Integrion		Method: SPLP ANIONS BY SW9056A					
MBLK	Sample ID: MBLK	Units: mg/L		Analysis Date: 18-Jan-2023 16:22					
Client ID:	Run ID: ICS-Integrion_426080		SeqNo: 7078946		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	ND	0.500							
Fluoride	ND	0.100							
Sulfate	ND	0.500							

LCS	Sample ID: LCS	Units: mg/L		Analysis Date: 18-Jan-2023 16:33					
Client ID:	Run ID: ICS-Integrion_426080		SeqNo: 7078947		PrepDate:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	19.94	0.500	20	0	99.7	80 - 120			
Fluoride	4.132	0.100	4	0	103	80 - 120			
Sulfate	19.64	0.500	20	0	98.2	80 - 120			

MS	Sample ID: HS23010722-02MS	Units: mg/L		Analysis Date: 18-Jan-2023 17:41					
Client ID: MW-8 (7-10')	Run ID: ICS-Integrion_426080		SeqNo: 7078954		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	102.5	5.00	100	3.76	98.7	80 - 120			
Fluoride	19.35	1.00	20	0.358	95.0	80 - 120			
Sulfate	1665	5.00	100	1560	105	80 - 120			EO

MSD	Sample ID: HS23010722-02MSD	Units: mg/L		Analysis Date: 18-Jan-2023 17:47					
Client ID: MW-8 (7-10')	Run ID: ICS-Integrion_426080		SeqNo: 7078955		PrepDate:		DF: 10		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
Chloride	102.3	5.00	100	3.76	98.6	80 - 120	102.5	0.147	20
Fluoride	21.98	1.00	20	0.358	108	80 - 120	19.35	12.7	20
Sulfate	1645	5.00	100	1560	84.1	80 - 120	1665	1.25	20 EO

The following samples were analyzed in this batch:									
HS23010722-01		HS23010722-02		HS23010722-03		HS23010722-04			

Client: HDR
Project: Comanche ASD
WorkOrder: HS23010722

**QUALIFIERS,
ACRONYMS, UNITS**

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
Date	
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	22-041-0	27-Mar-2023
California	2919 2022-2023	30-Apr-2023
Dept of Defense	L21-682	31-Dec-2023
Florida	E87611-36	30-Jun-2023
Illinois	2000322022-9	09-May-2023
Kansas	E-10352; 2022-2023	31-Jul-2023
Kentucky	123043, 2022-2023	30-Apr-2023
Louisiana	03087, 2022-2023	30-Jun-2023
Maryland	343, 2022-2023	30-Jun-2023
North Carolina	624-2023	31-Dec-2023
North Dakota	R-193 2022-2023	30-Apr-2023
Oklahoma	2022-141	31-Aug-2023
Texas	T104704231-22-29	30-Apr-2023
Utah	TX026932022-13	31-Jul-2023

Sample Receipt Checklist

Work Order ID: HS23010722

Date/Time Received: 11-Jan-2023 09:31

Client Name: HDR- Denver

Received by: Corey Grandits

Completed By: /S/ Corey Grandits

17-Jan-2023 10:16

Reviewed by:

eSignature

Date/Time

eSignature

Date/Time

Matrices: SCarrier name: FedEx

Shipping container/cooler in good condition?

Yes ☒No ☐Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☐No ☐Not Present ☒

Custody seals intact on sample bottles?

Yes ☐No ☐Not Present ☒

VOA/TX1005/TX1006 Solids in hermetically sealed vials?

Yes ☐No ☐Not Present ☒

Chain of custody present?

Yes ☐No ☒

1 Page(s)

Chain of custody signed when relinquished and received?

Yes ☐No ☒

Samplers name present on COC?

Yes ☐No ☒

Chain of custody agrees with sample labels?

Yes ☐No ☒

Samples in proper container/bottle?

Yes ☒No ☐

Sample containers intact?

Yes ☒No ☐

Sufficient sample volume for indicated test?

Yes ☒No ☐

All samples received within holding time?

Yes ☐No ☒

Container/Temp Blank temperature in compliance?

Yes ☒No ☐

Temperature(s)/Thermometer(s):

5.1uc/4.6c

ir31

Cooler(s)/Kit(s):

Sm Blue

Date/Time sample(s) sent to storage:

1/17/23

Water - VOA vials have zero headspace?

Yes ☐No ☐No VOA vials submitted ☒

Water - pH acceptable upon receipt?

Yes ☐No ☐N/A ☒

pH adjusted?

Yes ☐No ☐N/A ☒

pH adjusted by:

Login Notes: COC not received, logged in per client email

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

Corrective Action:

ORIGIN ID:GXVA (970) 305-1648
AMY KEPHART
ALS
965 E 11TH ST
LOVELAND, CO 80537
UNITED STATES US

SHIP DATE: 10JAN23
ACTWT: 40.00 LB MAN
CAD: 0487862/CAFE3618
DIMS: 24x14x12 IN
BILL SENDER

TO **SAMPLE RECEIVING**
ALS
10450 STANCLIFF RD
SUITE 210
HOUSTON TX 77099



FedEx
Express



TRK# 6182 5243 4710
0201

WED - 11 JAN 10:30A
PRIORITY OVERNIGHT

XA SGRA

77099
TX-US IAH



Part #: 167077-434 MTW EXP 0522

HS23010722

HDR
MW8 & MW9 Testing



ANALYTICAL REPORT

PREPARED FOR

Attn: Molly Reeves
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202
Generated 3/15/2023 11:10:38 AM

JOB DESCRIPTION

Xcel Energy GW CCR Monitoring - Comanche

JOB NUMBER

280-173023-1

Eurofins Denver

Job Notes

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the Eurofins TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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

Authorization



Generated
3/15/2023 11:10:38 AM

Authorized for release by
Nicole Ryan, Project Manager I
Nicole.Ryan@ET.eurofinsus.com
(303)736-0100

Table of Contents

Cover Page	1
Table of Contents	3
Definitions	4
Case Narrative	5
Detection Summary	8
Method Summary	11
Sample Summary	12
Client Sample Results	13
QC Sample Results	16
QC Association	24
Chronicle	28
Certification Summary	30
Chain of Custody	31
Receipt Checklists	32



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Qualifiers

Metals

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

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-173023-1

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.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Receipt

The samples were received on 3/2/2023 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9° C.

TOTAL RECOVERABLE METALS

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 03/03/2023 and 03/06/2023 and analyzed on 03/07/2023, 03/08/2023 and 03/09/2023.

Boron was detected in method blank MB 280-604065/1-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.

Boron failed the recovery criteria high for the MS of sample W-1MS (280-173023-3) in batch 280-604207.

Boron failed the recovery criteria high for the MSD of sample W-1MSD (280-173023-3) in batch 280-604207.

Sample MW-8 (280-173023-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL RECOVERABLE METALS (ICP/MS)

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for Total Recoverable Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 03/03/2023 and 03/06/2023 and analyzed on 03/07/2023, 03/08/2023 and 03/09/2023.

Potassium was detected in method blank MB 280-603903/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Sodium was detected in method blank MB 280-603903/1-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

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1 (Continued)

Laboratory: Eurofins Denver (Continued)

the associated sample reported a result above the MDL and/or RL, the result has been flagged. Lead was detected in method blank MB 280-604071/1-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.

Calcium failed the recovery criteria low for the MS of sample 280-173032-1 in batch 280-604535. Magnesium failed the recovery criteria high.

Calcium failed the recovery criteria low for the MSD of sample 280-173032-1 in batch 280-604535. Magnesium failed the recovery criteria high.

Selenium, Calcium, Potassium and Sodium failed the recovery criteria low for the MS of sample 280-173088-1 in batch 280-604536. Barium failed the recovery criteria high.

Selenium, Calcium and Sodium failed the recovery criteria low for the MSD of sample 280-173088-1 in batch 280-604536. Barium failed the recovery criteria high.

Samples MW-9 (280-173023-1)[10X], MW-9 (280-173023-1)[50X], MW-8 (280-173023-2)[10X], MW-8 (280-173023-2)[50X] and W-1 (280-173023-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL MERCURY

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 03/09/2023.

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

ALKALINITY

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 03/07/2023.

Alkalinity was detected in method blank MB 280-604200/110 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Bicarbonate Alkalinity as CaCO₃ was detected in method blank MB 280-604200/110 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.

TOTAL DISSOLVED SOLIDS

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 03/07/2023.

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

TOTAL SUSPENDED SOLIDS

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 03/03/2023.

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

CORROSIVITY (PH)

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 03/14/2023.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1 (Continued)

Laboratory: Eurofins Denver (Continued)

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

ANIONS (28 DAYS)

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 03/09/2023 and 03/10/2023.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 280-604445 were outside control limits for sulfate, see QC Sample Results for detail. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Fluoride failed the recovery criteria low for the MS of sample 280-173284-10 in batch 280-604627.

Fluoride failed the recovery criteria low for the MSD of sample 280-173284-10 in batch 280-604627.

Samples MW-9 (280-173023-1)[50X], MW-9 (280-173023-1)[500X], MW-8 (280-173023-2)[1000X] and MW-8 (280-173023-2)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-9

Lab Sample ID: 280-173023-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Boron	1.0	B	0.10	0.0015	mg/L	1			6010C	Total Recoverable
Lithium	0.93		0.020	0.0091	mg/L	1			6010C	Total Recoverable
Antimony	0.00067	J	0.0020	0.00040	mg/L	1			6020B	Total Recoverable
Magnesium	1200		2.0	0.042	mg/L	10			6020B	Total Recoverable
Arsenic	0.0017	J	0.0050	0.00050	mg/L	1			6020B	Total Recoverable
Sodium	7900	B	50	3.7	mg/L	50			6020B	Total Recoverable
Barium	0.012		0.0030	0.00038	mg/L	1			6020B	Total Recoverable
Potassium	24		10	0.52	mg/L	10			6020B	Total Recoverable
Cadmium	0.00058	J	0.0010	0.00019	mg/L	1			6020B	Total Recoverable
Chromium	0.0010	J	0.0030	0.00050	mg/L	1			6020B	Total Recoverable
Cobalt	0.0093		0.0010	0.00033	mg/L	1			6020B	Total Recoverable
Lead	0.0017	B	0.0010	0.00023	mg/L	1			6020B	Total Recoverable
Molybdenum	0.0050		0.0020	0.00037	mg/L	1			6020B	Total Recoverable
Selenium	0.0011	J	0.0050	0.0010	mg/L	1			6020B	Total Recoverable
Thallium	0.0016		0.0010	0.00021	mg/L	1			6020B	Total Recoverable
Calcium	490		2.0	0.32	mg/L	10			6020B	Total Recoverable
pH adj. to 25 deg C	7.3	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	1400		150	51	mg/L	50			9056A	Total/NA
Sulfate	20000		2500	520	mg/L	500			9056A	Total/NA
Alkalinity	1400	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids (TDS)	33000		1000	470	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	15		4.0	1.1	mg/L	1			SM 2540D	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 280-173023-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Boron	1.0	B	0.50	0.0073	mg/L	5			6010C	Total Recoverable
Lithium	3.3		0.020	0.0091	mg/L	1			6010C	Total Recoverable
Antimony	0.00087	J	0.0020	0.00040	mg/L	1			6020B	Total Recoverable
Magnesium	5300		10	0.21	mg/L	50			6020B	Total Recoverable
Arsenic	0.0015	J	0.0050	0.00050	mg/L	1			6020B	Total Recoverable
Sodium	6200	B	50	3.7	mg/L	50			6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-8 (Continued)

Lab Sample ID: 280-173023-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.015		0.0030	0.00038	mg/L	1		6020B	Total
									Recoverable
Potassium	45		10	0.52	mg/L	10		6020B	Total
									Recoverable
Cadmium	0.00093	J	0.0010	0.00019	mg/L	1		6020B	Total
									Recoverable
Chromium	0.0014	J	0.0030	0.00050	mg/L	1		6020B	Total
									Recoverable
Cobalt	0.027		0.0010	0.00033	mg/L	1		6020B	Total
									Recoverable
Lead	0.0021	B	0.0010	0.00023	mg/L	1		6020B	Total
									Recoverable
Molybdenum	0.012		0.0020	0.00037	mg/L	1		6020B	Total
									Recoverable
Selenium	1.6		0.0050	0.0010	mg/L	1		6020B	Total
									Recoverable
Thallium	0.0066		0.0010	0.00021	mg/L	1		6020B	Total
									Recoverable
Calcium	520		2.0	0.32	mg/L	10		6020B	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	560		60	20	mg/L	20		9056A	Total/NA
Sulfate	34000		5000	1000	mg/L	1000		9056A	Total/NA
Alkalinity	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	41000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	34		20	5.5	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-1

Lab Sample ID: 280-173023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.6	F1	0.10	0.0015	mg/L	1		6010C	Total
									Recoverable
Lithium	2.0		0.020	0.0091	mg/L	1		6010C	Total
									Recoverable
Magnesium	3100		10	0.21	mg/L	50		6020B	Total
									Recoverable
Arsenic	0.0014	J	0.0050	0.00050	mg/L	1		6020B	Total
									Recoverable
Sodium	6500	B	50	3.7	mg/L	50		6020B	Total
									Recoverable
Barium	0.015		0.0030	0.00038	mg/L	1		6020B	Total
									Recoverable
Potassium	9.5	B	1.0	0.052	mg/L	1		6020B	Total
									Recoverable
Cadmium	0.00047	J	0.0010	0.00019	mg/L	1		6020B	Total
									Recoverable
Chromium	0.0025	J	0.0030	0.00050	mg/L	1		6020B	Total
									Recoverable
Cobalt	0.00043	J	0.0010	0.00033	mg/L	1		6020B	Total
									Recoverable
Lead	0.00028	J	0.0010	0.00023	mg/L	1		6020B	Total
									Recoverable
Molybdenum	0.027		0.0020	0.00037	mg/L	1		6020B	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: HDR Inc

Job ID: 280-173023-1

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Client Sample ID: W-1 (Continued)

Lab Sample ID: 280-173023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.63		0.0050	0.0010	mg/L	1		6020B	Total
									Recoverable
Calcium	480		10	1.6	mg/L	50		6020B	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: HDR Inc

Job ID: 280-173023-1

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
7470A	Mercury (CVAA)	SW846	EET DEN
9040B	pH	SW846	EET DEN
9056A	Anions, Ion Chromatography	SW846	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
7470A	Preparation, Mercury	SW846	EET DEN

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:

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

Sample Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-173023-1	MW-9	Water	03/01/23 13:55	03/02/23 09:40
280-173023-2	MW-8	Water	03/01/23 16:55	03/02/23 09:40
280-173023-3	W-1	Water	03/01/23 11:30	03/02/23 09:40

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: SW846 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0	B	0.10	0.0015	mg/L		03/06/23 15:58	03/08/23 00:05	1
Lithium	0.93		0.020	0.0091	mg/L		03/06/23 15:58	03/08/23 00:05	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0	B	0.50	0.0073	mg/L		03/06/23 15:58	03/09/23 06:01	5
Lithium	3.3		0.020	0.0091	mg/L		03/06/23 15:58	03/08/23 00:10	1

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6	F1	0.10	0.0015	mg/L		03/03/23 15:35	03/07/23 06:03	1
Lithium	2.0		0.020	0.0091	mg/L		03/03/23 15:35	03/07/23 06:03	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00067	J	0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:18	1
Magnesium	1200		2.0	0.042	mg/L		03/06/23 15:45	03/08/23 22:07	10
Arsenic	0.0017	J	0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:18	1
Sodium	7900	B	50	3.7	mg/L		03/06/23 15:45	03/09/23 09:05	50
Barium	0.012		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:18	1
Potassium	24		10	0.52	mg/L		03/06/23 15:45	03/08/23 22:07	10
Beryllium	ND		0.0010	0.00030	mg/L		03/06/23 15:45	03/09/23 09:13	1
Cadmium	0.00058	J	0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:18	1
Chromium	0.0010	J	0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:18	1
Cobalt	0.0093		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:18	1
Lead	0.0017	B	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:18	1
Molybdenum	0.0050		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:18	1
Selenium	0.0011	J	0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:18	1
Thallium	0.0016		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:18	1
Calcium	490		2.0	0.32	mg/L		03/06/23 15:45	03/08/23 22:07	10

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00087	J	0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:23	1
Magnesium	5300		10	0.21	mg/L		03/06/23 15:45	03/09/23 09:07	50
Arsenic	0.0015	J	0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:23	1
Sodium	6200	B	50	3.7	mg/L		03/06/23 15:45	03/09/23 09:07	50
Barium	0.015		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:23	1
Potassium	45		10	0.52	mg/L		03/06/23 15:45	03/08/23 22:09	10
Beryllium	ND		0.0010	0.00030	mg/L		03/06/23 15:45	03/09/23 09:14	1
Cadmium	0.00093	J	0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:23	1

Eurofins Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0014	J	0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:23	1
Cobalt	0.027		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:23	1
Lead	0.0021	B	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:23	1
Molybdenum	0.012		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:23	1
Selenium	1.6		0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:23	1
Thallium	0.0066		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:23	1
Calcium	520		2.0	0.32	mg/L		03/06/23 15:45	03/08/23 22:09	10

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/03/23 15:43	03/08/23 00:48	1
Magnesium	3100		10	0.21	mg/L		03/03/23 15:43	03/08/23 23:59	50
Arsenic	0.0014	J	0.0050	0.00050	mg/L		03/03/23 15:43	03/08/23 00:48	1
Sodium	6500	B	50	3.7	mg/L		03/03/23 15:43	03/08/23 23:59	50
Barium	0.015		0.0030	0.00038	mg/L		03/03/23 15:43	03/08/23 00:48	1
Potassium	9.5	B	1.0	0.052	mg/L		03/03/23 15:43	03/09/23 00:19	1
Beryllium	ND		0.0010	0.00030	mg/L		03/03/23 15:43	03/09/23 00:19	1
Cadmium	0.00047	J	0.0010	0.00019	mg/L		03/03/23 15:43	03/08/23 00:48	1
Chromium	0.0025	J	0.0030	0.00050	mg/L		03/03/23 15:43	03/08/23 00:48	1
Cobalt	0.00043	J	0.0010	0.00033	mg/L		03/03/23 15:43	03/08/23 00:48	1
Lead	0.00028	J	0.0010	0.00023	mg/L		03/03/23 15:43	03/09/23 00:19	1
Molybdenum	0.027		0.0020	0.00037	mg/L		03/03/23 15:43	03/08/23 00:48	1
Selenium	0.63		0.0050	0.0010	mg/L		03/03/23 15:43	03/08/23 00:48	1
Thallium	ND		0.0010	0.00021	mg/L		03/03/23 15:43	03/08/23 00:48	1
Calcium	480		10	1.6	mg/L		03/03/23 15:43	03/08/23 23:59	50

Method: SW846 7470A - Mercury (CVAA)

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:46	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:49	1

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:56	1

Eurofins Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.3	HF	0.1	0.1	SU			03/14/23 10:38	1
Temperature (SW846 9040B)	21.2	HF	1.0	1.0	Degrees C			03/14/23 10:38	1
Chloride (SW846 9056A)	1400		150	51	mg/L			03/09/23 05:17	50
Fluoride (SW846 9056A)	ND		0.50	0.17	mg/L			03/10/23 21:41	1
Sulfate (SW846 9056A)	20000		2500	520	mg/L			03/10/23 00:04	500
Alkalinity (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:38	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:38	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			03/07/23 03:38	1
Total Dissolved Solids (TDS) (SM 2540C)	33000		1000	470	mg/L			03/07/23 12:47	1
Total Suspended Solids (SM 2540D)	15		4.0	1.1	mg/L			03/03/23 16:27	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.1	HF	0.1	0.1	SU			03/14/23 10:42	1
Temperature (SW846 9040B)	20.4	HF	1.0	1.0	Degrees C			03/14/23 10:42	1
Chloride (SW846 9056A)	560		60	20	mg/L			03/10/23 06:34	20
Fluoride (SW846 9056A)	ND		0.50	0.17	mg/L			03/09/23 19:54	1
Sulfate (SW846 9056A)	34000		5000	1000	mg/L			03/10/23 06:19	1000
Alkalinity (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			03/07/23 03:54	1
Total Dissolved Solids (TDS) (SM 2540C)	41000		1000	470	mg/L			03/07/23 12:47	1
Total Suspended Solids (SM 2540D)	34		20	5.5	mg/L			03/03/23 16:27	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-603935/1-A
Matrix: Water
Analysis Batch: 604207

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.0015	mg/L		03/03/23 15:35	03/07/23 05:33	1
Lithium	ND		0.020	0.0091	mg/L		03/03/23 15:35	03/07/23 05:33	1

Lab Sample ID: LCS 280-603935/2-A
Matrix: Water
Analysis Batch: 604207

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	2.13		mg/L		106	86 - 110
Lithium	1.00	0.962		mg/L		96	90 - 112

Lab Sample ID: 280-173023-3 MS
Matrix: Water
Analysis Batch: 604207

Client Sample ID: W-1
Prep Type: Total Recoverable
Prep Batch: 603935

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	3.6	F1	2.00	5.86	F1	mg/L		114	87 - 113
Lithium	2.0		1.00	2.99		mg/L		101	89 - 114

Lab Sample ID: 280-173023-3 MSD
Matrix: Water
Analysis Batch: 604207

Client Sample ID: W-1
Prep Type: Total Recoverable
Prep Batch: 603935

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	3.6	F1	2.00	5.88	F1	mg/L		115	87 - 113	0	20
Lithium	2.0		1.00	3.01		mg/L		103	89 - 114	1	20

Lab Sample ID: MB 280-604065/1-A
Matrix: Water
Analysis Batch: 604406

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604065

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00494	J	0.10	0.0015	mg/L		03/06/23 15:58	03/07/23 23:53	1
Lithium	ND		0.020	0.0091	mg/L		03/06/23 15:58	03/07/23 23:53	1

Lab Sample ID: LCS 280-604065/2-A
Matrix: Water
Analysis Batch: 604406

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	2.06		mg/L		103	86 - 110
Lithium	1.00	0.964		mg/L		96	90 - 112

Lab Sample ID: LCSD 280-604065/3-A
Matrix: Water
Analysis Batch: 604406

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 604065

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	2.00	2.09		mg/L		104	86 - 110	1	20
Lithium	1.00	0.974		mg/L		97	90 - 112	1	20

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-603903/1-A
Matrix: Water
Analysis Batch: 604368

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/03/23 15:43	03/08/23 00:35	1
Arsenic	ND		0.0050	0.00050	mg/L		03/03/23 15:43	03/08/23 00:35	1
Barium	ND		0.0030	0.00038	mg/L		03/03/23 15:43	03/08/23 00:35	1
Cadmium	ND		0.0010	0.00019	mg/L		03/03/23 15:43	03/08/23 00:35	1
Chromium	ND		0.0030	0.00050	mg/L		03/03/23 15:43	03/08/23 00:35	1
Cobalt	ND		0.0010	0.00033	mg/L		03/03/23 15:43	03/08/23 00:35	1
Molybdenum	ND		0.0020	0.00037	mg/L		03/03/23 15:43	03/08/23 00:35	1
Selenium	ND		0.0050	0.0010	mg/L		03/03/23 15:43	03/08/23 00:35	1
Thallium	ND		0.0010	0.00021	mg/L		03/03/23 15:43	03/08/23 00:35	1

Lab Sample ID: MB 280-603903/1-A
Matrix: Water
Analysis Batch: 604535

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		200	4.2	ug/L		03/03/23 15:43	03/08/23 23:56	1
Sodium	149	J	1000	73	ug/L		03/03/23 15:43	03/08/23 23:56	1
Potassium	156	J	1000	52	ug/L		03/03/23 15:43	03/08/23 23:56	1
Beryllium	ND		0.0010	0.00030	mg/L		03/03/23 15:43	03/08/23 23:56	1
Lead	ND		0.0010	0.00023	mg/L		03/03/23 15:43	03/08/23 23:56	1
Calcium	ND		0.20	0.032	mg/L		03/03/23 15:43	03/08/23 23:56	1

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604368

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0415		mg/L		104	85 - 115
Arsenic	0.0400	0.0396		mg/L		99	85 - 117
Barium	0.0400	0.0413		mg/L		103	85 - 118
Cadmium	0.0400	0.0405		mg/L		101	85 - 115
Chromium	0.0400	0.0413		mg/L		103	84 - 121
Cobalt	0.0400	0.0414		mg/L		103	85 - 120
Molybdenum	0.0400	0.0418		mg/L		104	85 - 119
Selenium	0.0400	0.0414		mg/L		104	77 - 122
Thallium	0.0400	0.0406		mg/L		102	85 - 118

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604535

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	800	816		ug/L		102	80 - 120
Beryllium	0.0400	0.0428		mg/L		107	80 - 125
Lead	0.0400	0.0403		mg/L		101	85 - 118
Calcium	0.800	0.911		mg/L		114	80 - 120

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604580

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	800	921	J	ug/L		115	80 - 120
Potassium	800	859	J	ug/L		107	80 - 120

Lab Sample ID: MB 280-604071/1-A
Matrix: Water
Analysis Batch: 604367

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:03	1
Arsenic	ND		0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:03	1
Barium	ND		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:03	1
Cadmium	ND		0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:03	1
Chromium	ND		0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:03	1
Cobalt	ND		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:03	1
Lead	0.000256	J	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:03	1
Molybdenum	ND		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:03	1
Selenium	ND		0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:03	1
Thallium	ND		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:03	1

Lab Sample ID: MB 280-604071/1-A
Matrix: Water
Analysis Batch: 604536

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		1000	73	ug/L		03/06/23 15:45	03/08/23 21:47	1
Potassium	ND		1000	52	ug/L		03/06/23 15:45	03/08/23 21:47	1
Calcium	ND		0.20	0.032	mg/L		03/06/23 15:45	03/08/23 21:47	1

Lab Sample ID: LCS 280-604071/2-A
Matrix: Water
Analysis Batch: 604367

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0412		mg/L		103	85 - 115
Arsenic	0.0400	0.0425		mg/L		106	85 - 117
Barium	0.0400	0.0412		mg/L		103	85 - 118
Cadmium	0.0400	0.0402		mg/L		101	85 - 115
Chromium	0.0400	0.0418		mg/L		105	84 - 121
Cobalt	0.0400	0.0422		mg/L		105	85 - 120
Lead	0.0400	0.0410		mg/L		102	85 - 118
Molybdenum	0.0400	0.0422		mg/L		105	85 - 119
Selenium	0.0400	0.0446		mg/L		112	77 - 122
Thallium	0.0400	0.0405		mg/L		101	85 - 118

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-604071/2-A
Matrix: Water
Analysis Batch: 604536

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	800	865	J	ug/L		108	80 - 120
Potassium	800	846	J	ug/L		106	80 - 120
Calcium	0.800	0.920		mg/L		115	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-604562/1-A
Matrix: Water
Analysis Batch: 604781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:26	1

Lab Sample ID: LCS 280-604562/2-A
Matrix: Water
Analysis Batch: 604781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 604562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00501		mg/L		100	84 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-605123/7
Matrix: Water
Analysis Batch: 605123

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 280-604445/52
Matrix: Water
Analysis Batch: 604445

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			03/09/23 04:29	1

Lab Sample ID: MB 280-604445/6
Matrix: Water
Analysis Batch: 604445

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			03/08/23 14:17	1

Lab Sample ID: LCS 280-604445/4
Matrix: Water
Analysis Batch: 604445

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.1		mg/L		98	90 - 110

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 280-604445/50

Matrix: Water

Analysis Batch: 604445

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.3		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-604445/5

Matrix: Water

Analysis Batch: 604445

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	50.0	49.4		mg/L		99	90 - 110	1	10

Lab Sample ID: LCSD 280-604445/51

Matrix: Water

Analysis Batch: 604445

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	50.0	50.1		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-604445/3

Matrix: Water

Analysis Batch: 604445

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.33	J	mg/L		93	50 - 150

Lab Sample ID: MB 280-604608/50

Matrix: Water

Analysis Batch: 604608

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			03/10/23 03:04	1
Sulfate	ND		5.0	1.0	mg/L			03/10/23 03:04	1

Lab Sample ID: MB 280-604608/6

Matrix: Water

Analysis Batch: 604608

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			03/09/23 15:17	1

Lab Sample ID: LCS 280-604608/4

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	50.0	50.0		mg/L		100	90 - 110

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-604608/48

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.6		mg/L		101	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-604608/49

Matrix: Water

Analysis Batch: 604608

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	50.0	50.7		mg/L		101	90 - 110	0	10
Sulfate	50.0	50.5		mg/L		101	90 - 110	0	10

Lab Sample ID: LCSD 280-604608/5

Matrix: Water

Analysis Batch: 604608

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	50.0	50.0		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-604608/3

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.55	J	mg/L		102	50 - 150
Sulfate	2.50	2.35	J	mg/L		94	50 - 150

Lab Sample ID: MB 280-604627/13

Matrix: Water

Analysis Batch: 604627

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			03/09/23 16:52	1

Lab Sample ID: LCS 280-604627/11

Matrix: Water

Analysis Batch: 604627

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.44		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-604627/12

Matrix: Water

Analysis Batch: 604627

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	2.50	2.49		mg/L		99	90 - 110	2	10

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: MRL 280-604627/10
Matrix: Water
Analysis Batch: 604627

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.250	0.328	J	mg/L		131	50 - 150

Lab Sample ID: MB 280-604744/6
Matrix: Water
Analysis Batch: 604744

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			03/10/23 16:47	1

Lab Sample ID: LCS 280-604744/4
Matrix: Water
Analysis Batch: 604744

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.28		mg/L		91	90 - 110

Lab Sample ID: LCSD 280-604744/5
Matrix: Water
Analysis Batch: 604744

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	2.50	2.30		mg/L		92	90 - 110	1	10

Lab Sample ID: MRL 280-604744/3
Matrix: Water
Analysis Batch: 604744

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.250	0.232	J	mg/L		93	50 - 150

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-604200/110
Matrix: Water
Analysis Batch: 604200

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	3.42	J	10	3.1	mg/L			03/07/23 00:20	1
Bicarbonate Alkalinity as CaCO3	3.42	J	10	3.1	mg/L			03/07/23 00:20	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			03/07/23 00:20	1

Lab Sample ID: LCS 280-604200/109
Matrix: Water
Analysis Batch: 604200

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	200	208		mg/L		104	89 - 109

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: MB 280-604273/1
Matrix: Water
Analysis Batch: 604273

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			03/07/23 12:47	1

Lab Sample ID: LCS 280-604273/2
Matrix: Water
Analysis Batch: 604273

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	474		mg/L		95	88 - 114

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

Lab Sample ID: MB 280-604025/3
Matrix: Water
Analysis Batch: 604025

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			03/03/23 16:27	1

Lab Sample ID: LCS 280-604025/1
Matrix: Water
Analysis Batch: 604025

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	505	411		mg/L		81	79 - 114

Lab Sample ID: LCSD 280-604025/2
Matrix: Water
Analysis Batch: 604025

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	505	410		mg/L		81	79 - 114	0	20

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Metals

Prep Batch: 603903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	3005A	
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 603935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	3005A	
MB 280-603935/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-603935/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-173023-3 MS	W-1	Total Recoverable	Water	3005A	
280-173023-3 MSD	W-1	Total Recoverable	Water	3005A	

Prep Batch: 604065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	3005A	
280-173023-2	MW-8	Total Recoverable	Water	3005A	
MB 280-604065/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-604065/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 280-604065/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 604071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	3005A	
280-173023-2	MW-8	Total Recoverable	Water	3005A	
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 604207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6010C	603935
MB 280-603935/1-A	Method Blank	Total Recoverable	Water	6010C	603935
LCS 280-603935/2-A	Lab Control Sample	Total Recoverable	Water	6010C	603935
280-173023-3 MS	W-1	Total Recoverable	Water	6010C	603935
280-173023-3 MSD	W-1	Total Recoverable	Water	6010C	603935

Analysis Batch: 604367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	6020B	604071
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604071

Analysis Batch: 604368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	6020B	603903
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6010C	604065

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Metals (Continued)

Analysis Batch: 604406 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total Recoverable	Water	6010C	604065
MB 280-604065/1-A	Method Blank	Total Recoverable	Water	6010C	604065
LCS 280-604065/2-A	Lab Control Sample	Total Recoverable	Water	6010C	604065
LCSD 280-604065/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	604065

Analysis Batch: 604535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	6020B	603903
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	6020B	604071
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604071

Prep Batch: 604562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	7470A	
280-173023-2	MW-8	Total/NA	Water	7470A	
280-173023-3	W-1	Total/NA	Water	7470A	
MB 280-604562/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-604562/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 604580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total Recoverable	Water	6010C	604065

Analysis Batch: 604781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	7470A	604562
280-173023-2	MW-8	Total/NA	Water	7470A	604562
280-173023-3	W-1	Total/NA	Water	7470A	604562
MB 280-604562/1-A	Method Blank	Total/NA	Water	7470A	604562
LCS 280-604562/2-A	Lab Control Sample	Total/NA	Water	7470A	604562

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Analysis Batch: 604025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2540D	
280-173023-2	MW-8	Total/NA	Water	SM 2540D	
MB 280-604025/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-604025/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-604025/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 604200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2320B	
280-173023-2	MW-8	Total/NA	Water	SM 2320B	
MB 280-604200/110	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-604200/109	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 604273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2540C	
280-173023-2	MW-8	Total/NA	Water	SM 2540C	
MB 280-604273/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-604273/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 604445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
MB 280-604445/52	Method Blank	Total/NA	Water	9056A	
MB 280-604445/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604445/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-604445/50	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604445/5	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-604445/51	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604445/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 604608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
280-173023-2	MW-8	Total/NA	Water	9056A	
280-173023-2	MW-8	Total/NA	Water	9056A	
MB 280-604608/50	Method Blank	Total/NA	Water	9056A	
MB 280-604608/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604608/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-604608/48	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604608/49	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-604608/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604608/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 604627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total/NA	Water	9056A	
MB 280-604627/13	Method Blank	Total/NA	Water	9056A	
LCS 280-604627/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604627/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604627/10	Lab Control Sample	Total/NA	Water	9056A	

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Analysis Batch: 604744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
MB 280-604744/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604744/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604744/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604744/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 605123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9040B	
280-173023-2	MW-8	Total/NA	Water	9040B	
LCS 280-605123/7	Lab Control Sample	Total/NA	Water	9040B	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-9

Date Collected: 03/01/23 13:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1

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	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604406	03/08/23 00:05	ADL	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604367	03/07/23 20:18	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		10			604536	03/08/23 22:07	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			604580	03/09/23 09:05	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604580	03/09/23 09:13	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:46	KMS	EET DEN
Total/NA	Analysis	9040B		1			605123	03/14/23 10:38	KEG	EET DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	604608	03/10/23 00:04	MEC	EET DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	604445	03/09/23 05:17	MEC	EET DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	604744	03/10/23 21:41	MEC	EET DEN
Total/NA	Analysis	SM 2320B		1			604200	03/07/23 03:38	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	604273	03/07/23 12:47	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	604025	03/03/23 16:27	MCR	EET DEN

Client Sample ID: MW-8

Date Collected: 03/01/23 16:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2

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	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604406	03/08/23 00:10	ADL	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		5			604632	03/09/23 06:01	KRP	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604367	03/07/23 20:23	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		10			604536	03/08/23 22:09	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			604580	03/09/23 09:07	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604580	03/09/23 09:14	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:49	KMS	EET DEN
Total/NA	Analysis	9040B		1			605123	03/14/23 10:42	KEG	EET DEN
Total/NA	Analysis	9056A		1000	5 mL	5 mL	604608	03/10/23 06:19	MEC	EET DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	604608	03/10/23 06:34	MEC	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	604627	03/09/23 19:54	MEC	EET DEN

Eurofins Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-8

Date Collected: 03/01/23 16:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			604200	03/07/23 03:54	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	604273	03/07/23 12:47	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	50 mL	250 mL	604025	03/03/23 16:27	MCR	EET DEN

Client Sample ID: W-1

Date Collected: 03/01/23 11:30

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3

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	603935	03/03/23 15:35	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604207	03/07/23 06:03	KRP	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		1			604368	03/08/23 00:48	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		50			604535	03/08/23 23:59	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		1			604535	03/09/23 00:19	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:56	KMS	EET DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Laboratory: Eurofins Denver

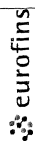
Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

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		Water	Temperature

Eurofins Denver

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

Chain of Custody Record



Environment Testing
America

Client Information Client Contact: Ms. Sierra Schupp Company: HDR Inc Address: 1670 Broadway Suite 3400 City: Denver State, Zip: CO, 80202 Phone: 734-263-7138(Tel) Email: Sierra.Schupp@hdrinc.com Project Name: Xcel Energy GW CCR Monitoring - Comanche Site: Colorado On-Site Wells		Sampler: Francis Li Lab PM: Ryan, Nicole C E-Mail: Nicole.Ryan@ET.eurofins.com Phone: 710-261-5222 PWSID:		Carrier Tracking No(s): 280-123984-34657.2 State of Origin: Page 2 of 2 Job #:		COC No: 280-123984-34657.2 Page: Page 2 of 2 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): Compliance Project: ☐ Yes ☐ No PO #: DEN-021 WO #: Project #: 28014376 SSOW#:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) App III and IV Metals: Bo, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Li, Mo, Se, Ti Total Mercury Additional Metals: Mg, Na, K 9056 Anions: Chloride, Fluoride, Sulfate 2540C: TDS 2540D: TSS 9040 pH 2320 Alkalinity RAD: Ra226, Ra228, Ra226+228		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:		Special Instructions/Note: Please treat W-1 as the completion of "W-1" sample set dropped of 02/23/23. There was not enough volume to fill all bottles previously.	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=air)		MW-9 MW-8 W-1		03/01/23 1355 G W		03/01/23 1655 G W	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Date: 03/01/23 0940 Date/Time: 03/01/23 Date/Time: 03/01/23 Date/Time:		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: Relinquished by: Relinquished by: Custody Seal No.: Custody Seals Intact: ☐ Yes ☐ No	
Method of Shipment: Date/Time: 3/2/23 0940 Date/Time: 3/2/23 0955 Date/Time:		Received by: [Signature] Received by: [Signature] Received by:		Company: [Signature] Company: [Signature] Company:		Cooler Temperature(s) °C and Other Remarks: 0.5 / 10.1	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-173023-1

Login Number: 173023

List Number: 1

Creator: Roehsner, Karen P

List Source: Eurofins Denver

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

ANALYTICAL REPORT

PREPARED FOR

Attn: Molly Reeves
HDR Inc
1670 Broadway
Suite 3400
Denver, Colorado 80202
Generated 3/15/2023 11:10:38 AM

JOB DESCRIPTION

Xcel Energy GW CCR Monitoring - Comanche

JOB NUMBER

280-173023-1

Eurofins Denver

Job Notes

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the Eurofins TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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

Authorization



Generated
3/15/2023 11:10:38 AM

Authorized for release by
Nicole Ryan, Project Manager I
Nicole.Ryan@ET.eurofinsus.com
(303)736-0100

Table of Contents

Cover Page 1

Table of Contents 3

Definitions 4

Case Narrative 5

Detection Summary 8

Method Summary 11

Sample Summary 12

Client Sample Results 13

QC Sample Results 16

QC Association 24

Chronicle 28

Certification Summary 30

Chain of Custody 31

Receipt Checklists 32



Definitions/Glossary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Qualifiers

Metals

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

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1

Laboratory: Eurofins Denver

Narrative

CASE NARRATIVE

Client: HDR Inc

Project: Xcel Energy GW CCR Monitoring - Comanche

Report Number: 280-173023-1

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.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Receipt

The samples were received on 3/2/2023 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.9° C.

TOTAL RECOVERABLE METALS

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for Total Recoverable Metals in accordance with EPA SW-846 Method 6010C. The samples were prepared on 03/03/2023 and 03/06/2023 and analyzed on 03/07/2023, 03/08/2023 and 03/09/2023.

Boron was detected in method blank MB 280-604065/1-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.

Boron failed the recovery criteria high for the MS of sample W-1MS (280-173023-3) in batch 280-604207.

Boron failed the recovery criteria high for the MSD of sample W-1MSD (280-173023-3) in batch 280-604207.

Sample MW-8 (280-173023-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL RECOVERABLE METALS (ICP/MS)

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for Total Recoverable Metals (ICP/MS) in accordance with SW846 6020B. The samples were prepared on 03/03/2023 and 03/06/2023 and analyzed on 03/07/2023, 03/08/2023 and 03/09/2023.

Potassium was detected in method blank MB 280-603903/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Sodium was detected in method blank MB 280-603903/1-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

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1 (Continued)

Laboratory: Eurofins Denver (Continued)

the associated sample reported a result above the MDL and/or RL, the result has been flagged. Lead was detected in method blank MB 280-604071/1-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.

Calcium failed the recovery criteria low for the MS of sample 280-173032-1 in batch 280-604535. Magnesium failed the recovery criteria high.

Calcium failed the recovery criteria low for the MSD of sample 280-173032-1 in batch 280-604535. Magnesium failed the recovery criteria high.

Selenium, Calcium, Potassium and Sodium failed the recovery criteria low for the MS of sample 280-173088-1 in batch 280-604536. Barium failed the recovery criteria high.

Selenium, Calcium and Sodium failed the recovery criteria low for the MSD of sample 280-173088-1 in batch 280-604536. Barium failed the recovery criteria high.

Samples MW-9 (280-173023-1)[10X], MW-9 (280-173023-1)[50X], MW-8 (280-173023-2)[10X], MW-8 (280-173023-2)[50X] and W-1 (280-173023-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

TOTAL MERCURY

Samples MW-9 (280-173023-1), MW-8 (280-173023-2) and W-1 (280-173023-3) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 03/09/2023.

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

ALKALINITY

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 03/07/2023.

Alkalinity was detected in method blank MB 280-604200/110 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Bicarbonate Alkalinity as CaCO₃ was detected in method blank MB 280-604200/110 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.

TOTAL DISSOLVED SOLIDS

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 03/07/2023.

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

TOTAL SUSPENDED SOLIDS

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for total suspended solids in accordance with SM20 2540D. The samples were analyzed on 03/03/2023.

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

CORROSIVITY (PH)

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for corrosivity (pH) in accordance with EPA SW-846 Method 9040B. The samples were analyzed on 03/14/2023.

Case Narrative

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Job ID: 280-173023-1 (Continued)

Laboratory: Eurofins Denver (Continued)

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

ANIONS (28 DAYS)

Samples MW-9 (280-173023-1) and MW-8 (280-173023-2) were analyzed for anions (28 days) in accordance with EPA SW-846 Method 9056A (28 Days). The samples were analyzed on 03/09/2023 and 03/10/2023.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 280-604445 were outside control limits for sulfate, see QC Sample Results for detail. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Fluoride failed the recovery criteria low for the MS of sample 280-173284-10 in batch 280-604627.

Fluoride failed the recovery criteria low for the MSD of sample 280-173284-10 in batch 280-604627.

Samples MW-9 (280-173023-1)[50X], MW-9 (280-173023-1)[500X], MW-8 (280-173023-2)[1000X] and MW-8 (280-173023-2)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-9

Lab Sample ID: 280-173023-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Boron	1.0	B	0.10	0.0015	mg/L	1			6010C	Total Recoverable
Lithium	0.93		0.020	0.0091	mg/L	1			6010C	Total Recoverable
Antimony	0.00067	J	0.0020	0.00040	mg/L	1			6020B	Total Recoverable
Magnesium	1200		2.0	0.042	mg/L	10			6020B	Total Recoverable
Arsenic	0.0017	J	0.0050	0.00050	mg/L	1			6020B	Total Recoverable
Sodium	7900	B	50	3.7	mg/L	50			6020B	Total Recoverable
Barium	0.012		0.0030	0.00038	mg/L	1			6020B	Total Recoverable
Potassium	24		10	0.52	mg/L	10			6020B	Total Recoverable
Cadmium	0.00058	J	0.0010	0.00019	mg/L	1			6020B	Total Recoverable
Chromium	0.0010	J	0.0030	0.00050	mg/L	1			6020B	Total Recoverable
Cobalt	0.0093		0.0010	0.00033	mg/L	1			6020B	Total Recoverable
Lead	0.0017	B	0.0010	0.00023	mg/L	1			6020B	Total Recoverable
Molybdenum	0.0050		0.0020	0.00037	mg/L	1			6020B	Total Recoverable
Selenium	0.0011	J	0.0050	0.0010	mg/L	1			6020B	Total Recoverable
Thallium	0.0016		0.0010	0.00021	mg/L	1			6020B	Total Recoverable
Calcium	490		2.0	0.32	mg/L	10			6020B	Total Recoverable
pH adj. to 25 deg C	7.3	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	1400		150	51	mg/L	50			9056A	Total/NA
Sulfate	20000		2500	520	mg/L	500			9056A	Total/NA
Alkalinity	1400	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	B	10	3.1	mg/L	1			SM 2320B	Total/NA
Total Dissolved Solids (TDS)	33000		1000	470	mg/L	1			SM 2540C	Total/NA
Total Suspended Solids	15		4.0	1.1	mg/L	1			SM 2540D	Total/NA

Client Sample ID: MW-8

Lab Sample ID: 280-173023-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Boron	1.0	B	0.50	0.0073	mg/L	5			6010C	Total Recoverable
Lithium	3.3		0.020	0.0091	mg/L	1			6010C	Total Recoverable
Antimony	0.00087	J	0.0020	0.00040	mg/L	1			6020B	Total Recoverable
Magnesium	5300		10	0.21	mg/L	50			6020B	Total Recoverable
Arsenic	0.0015	J	0.0050	0.00050	mg/L	1			6020B	Total Recoverable
Sodium	6200	B	50	3.7	mg/L	50			6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-8 (Continued)

Lab Sample ID: 280-173023-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.015		0.0030	0.00038	mg/L	1		6020B	Total
									Recoverable
Potassium	45		10	0.52	mg/L	10		6020B	Total
									Recoverable
Cadmium	0.00093	J	0.0010	0.00019	mg/L	1		6020B	Total
									Recoverable
Chromium	0.0014	J	0.0030	0.00050	mg/L	1		6020B	Total
									Recoverable
Cobalt	0.027		0.0010	0.00033	mg/L	1		6020B	Total
									Recoverable
Lead	0.0021	B	0.0010	0.00023	mg/L	1		6020B	Total
									Recoverable
Molybdenum	0.012		0.0020	0.00037	mg/L	1		6020B	Total
									Recoverable
Selenium	1.6		0.0050	0.0010	mg/L	1		6020B	Total
									Recoverable
Thallium	0.0066		0.0010	0.00021	mg/L	1		6020B	Total
									Recoverable
Calcium	520		2.0	0.32	mg/L	10		6020B	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	560		60	20	mg/L	20		9056A	Total/NA
Sulfate	34000		5000	1000	mg/L	1000		9056A	Total/NA
Alkalinity	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	1400	B	10	3.1	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids (TDS)	41000		1000	470	mg/L	1		SM 2540C	Total/NA
Total Suspended Solids	34		20	5.5	mg/L	1		SM 2540D	Total/NA

Client Sample ID: W-1

Lab Sample ID: 280-173023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	3.6	F1	0.10	0.0015	mg/L	1		6010C	Total
									Recoverable
Lithium	2.0		0.020	0.0091	mg/L	1		6010C	Total
									Recoverable
Magnesium	3100		10	0.21	mg/L	50		6020B	Total
									Recoverable
Arsenic	0.0014	J	0.0050	0.00050	mg/L	1		6020B	Total
									Recoverable
Sodium	6500	B	50	3.7	mg/L	50		6020B	Total
									Recoverable
Barium	0.015		0.0030	0.00038	mg/L	1		6020B	Total
									Recoverable
Potassium	9.5	B	1.0	0.052	mg/L	1		6020B	Total
									Recoverable
Cadmium	0.00047	J	0.0010	0.00019	mg/L	1		6020B	Total
									Recoverable
Chromium	0.0025	J	0.0030	0.00050	mg/L	1		6020B	Total
									Recoverable
Cobalt	0.00043	J	0.0010	0.00033	mg/L	1		6020B	Total
									Recoverable
Lead	0.00028	J	0.0010	0.00023	mg/L	1		6020B	Total
									Recoverable
Molybdenum	0.027		0.0020	0.00037	mg/L	1		6020B	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Detection Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: W-1 (Continued)

Lab Sample ID: 280-173023-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.63		0.0050	0.0010	mg/L	1		6020B	Total
									Recoverable
Calcium	480		10	1.6	mg/L	50		6020B	Total
									Recoverable

This Detection Summary does not include radiochemical test results.

Eurofins Denver

Method Summary

Client: HDR Inc

Job ID: 280-173023-1

Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	EET DEN
6020B	Metals (ICP/MS)	SW846	EET DEN
7470A	Mercury (CVAA)	SW846	EET DEN
9040B	pH	SW846	EET DEN
9056A	Anions, Ion Chromatography	SW846	EET DEN
SM 2320B	Alkalinity	SM	EET DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET DEN
SM 2540D	Solids, Total Suspended (TSS)	SM	EET DEN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET DEN
7470A	Preparation, Mercury	SW846	EET DEN

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:

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

Sample Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-173023-1	MW-9	Water	03/01/23 13:55	03/02/23 09:40
280-173023-2	MW-8	Water	03/01/23 16:55	03/02/23 09:40
280-173023-3	W-1	Water	03/01/23 11:30	03/02/23 09:40

1

2

3

4

5

6

7

8

9

10

11

12

13

14

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: SW846 6010C - Metals (ICP) - Total Recoverable

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0	B	0.10	0.0015	mg/L		03/06/23 15:58	03/08/23 00:05	1
Lithium	0.93		0.020	0.0091	mg/L		03/06/23 15:58	03/08/23 00:05	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	1.0	B	0.50	0.0073	mg/L		03/06/23 15:58	03/09/23 06:01	5
Lithium	3.3		0.020	0.0091	mg/L		03/06/23 15:58	03/08/23 00:10	1

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	3.6	F1	0.10	0.0015	mg/L		03/03/23 15:35	03/07/23 06:03	1
Lithium	2.0		0.020	0.0091	mg/L		03/03/23 15:35	03/07/23 06:03	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00067	J	0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:18	1
Magnesium	1200		2.0	0.042	mg/L		03/06/23 15:45	03/08/23 22:07	10
Arsenic	0.0017	J	0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:18	1
Sodium	7900	B	50	3.7	mg/L		03/06/23 15:45	03/09/23 09:05	50
Barium	0.012		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:18	1
Potassium	24		10	0.52	mg/L		03/06/23 15:45	03/08/23 22:07	10
Beryllium	ND		0.0010	0.00030	mg/L		03/06/23 15:45	03/09/23 09:13	1
Cadmium	0.00058	J	0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:18	1
Chromium	0.0010	J	0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:18	1
Cobalt	0.0093		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:18	1
Lead	0.0017	B	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:18	1
Molybdenum	0.0050		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:18	1
Selenium	0.0011	J	0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:18	1
Thallium	0.0016		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:18	1
Calcium	490		2.0	0.32	mg/L		03/06/23 15:45	03/08/23 22:07	10

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00087	J	0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:23	1
Magnesium	5300		10	0.21	mg/L		03/06/23 15:45	03/09/23 09:07	50
Arsenic	0.0015	J	0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:23	1
Sodium	6200	B	50	3.7	mg/L		03/06/23 15:45	03/09/23 09:07	50
Barium	0.015		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:23	1
Potassium	45		10	0.52	mg/L		03/06/23 15:45	03/08/23 22:09	10
Beryllium	ND		0.0010	0.00030	mg/L		03/06/23 15:45	03/09/23 09:14	1
Cadmium	0.00093	J	0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:23	1

Eurofins Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0014	J	0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:23	1
Cobalt	0.027		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:23	1
Lead	0.0021	B	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:23	1
Molybdenum	0.012		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:23	1
Selenium	1.6		0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:23	1
Thallium	0.0066		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:23	1
Calcium	520		2.0	0.32	mg/L		03/06/23 15:45	03/08/23 22:09	10

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/03/23 15:43	03/08/23 00:48	1
Magnesium	3100		10	0.21	mg/L		03/03/23 15:43	03/08/23 23:59	50
Arsenic	0.0014	J	0.0050	0.00050	mg/L		03/03/23 15:43	03/08/23 00:48	1
Sodium	6500	B	50	3.7	mg/L		03/03/23 15:43	03/08/23 23:59	50
Barium	0.015		0.0030	0.00038	mg/L		03/03/23 15:43	03/08/23 00:48	1
Potassium	9.5	B	1.0	0.052	mg/L		03/03/23 15:43	03/09/23 00:19	1
Beryllium	ND		0.0010	0.00030	mg/L		03/03/23 15:43	03/09/23 00:19	1
Cadmium	0.00047	J	0.0010	0.00019	mg/L		03/03/23 15:43	03/08/23 00:48	1
Chromium	0.0025	J	0.0030	0.00050	mg/L		03/03/23 15:43	03/08/23 00:48	1
Cobalt	0.00043	J	0.0010	0.00033	mg/L		03/03/23 15:43	03/08/23 00:48	1
Lead	0.00028	J	0.0010	0.00023	mg/L		03/03/23 15:43	03/09/23 00:19	1
Molybdenum	0.027		0.0020	0.00037	mg/L		03/03/23 15:43	03/08/23 00:48	1
Selenium	0.63		0.0050	0.0010	mg/L		03/03/23 15:43	03/08/23 00:48	1
Thallium	ND		0.0010	0.00021	mg/L		03/03/23 15:43	03/08/23 00:48	1
Calcium	480		10	1.6	mg/L		03/03/23 15:43	03/08/23 23:59	50

Method: SW846 7470A - Mercury (CVAA)

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:46	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:49	1

Client Sample ID: W-1
Date Collected: 03/01/23 11:30
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:56	1

Eurofins Denver

Client Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Client Sample ID: MW-9
Date Collected: 03/01/23 13:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.3	HF	0.1	0.1	SU			03/14/23 10:38	1
Temperature (SW846 9040B)	21.2	HF	1.0	1.0	Degrees C			03/14/23 10:38	1
Chloride (SW846 9056A)	1400		150	51	mg/L			03/09/23 05:17	50
Fluoride (SW846 9056A)	ND		0.50	0.17	mg/L			03/10/23 21:41	1
Sulfate (SW846 9056A)	20000		2500	520	mg/L			03/10/23 00:04	500
Alkalinity (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:38	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:38	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			03/07/23 03:38	1
Total Dissolved Solids (TDS) (SM 2540C)	33000		1000	470	mg/L			03/07/23 12:47	1
Total Suspended Solids (SM 2540D)	15		4.0	1.1	mg/L			03/03/23 16:27	1

Client Sample ID: MW-8
Date Collected: 03/01/23 16:55
Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH adj. to 25 deg C (SW846 9040B)	7.1	HF	0.1	0.1	SU			03/14/23 10:42	1
Temperature (SW846 9040B)	20.4	HF	1.0	1.0	Degrees C			03/14/23 10:42	1
Chloride (SW846 9056A)	560		60	20	mg/L			03/10/23 06:34	20
Fluoride (SW846 9056A)	ND		0.50	0.17	mg/L			03/09/23 19:54	1
Sulfate (SW846 9056A)	34000		5000	1000	mg/L			03/10/23 06:19	1000
Alkalinity (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:54	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	1400	B	10	3.1	mg/L			03/07/23 03:54	1
Carbonate Alkalinity as CaCO3 (SM 2320B)	ND		10	3.1	mg/L			03/07/23 03:54	1
Total Dissolved Solids (TDS) (SM 2540C)	41000		1000	470	mg/L			03/07/23 12:47	1
Total Suspended Solids (SM 2540D)	34		20	5.5	mg/L			03/03/23 16:27	1

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-603935/1-A

Matrix: Water

Analysis Batch: 604207

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 603935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.10	0.0015	mg/L		03/03/23 15:35	03/07/23 05:33	1
Lithium	ND		0.020	0.0091	mg/L		03/03/23 15:35	03/07/23 05:33	1

Lab Sample ID: LCS 280-603935/2-A

Matrix: Water

Analysis Batch: 604207

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 603935

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	2.13		mg/L		106	86 - 110
Lithium	1.00	0.962		mg/L		96	90 - 112

Lab Sample ID: 280-173023-3 MS

Matrix: Water

Analysis Batch: 604207

Client Sample ID: W-1

Prep Type: Total Recoverable

Prep Batch: 603935

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	3.6	F1	2.00	5.86	F1	mg/L		114	87 - 113
Lithium	2.0		1.00	2.99		mg/L		101	89 - 114

Lab Sample ID: 280-173023-3 MSD

Matrix: Water

Analysis Batch: 604207

Client Sample ID: W-1

Prep Type: Total Recoverable

Prep Batch: 603935

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	3.6	F1	2.00	5.88	F1	mg/L		115	87 - 113	0	20
Lithium	2.0		1.00	3.01		mg/L		103	89 - 114	1	20

Lab Sample ID: MB 280-604065/1-A

Matrix: Water

Analysis Batch: 604406

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 604065

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00494	J	0.10	0.0015	mg/L		03/06/23 15:58	03/07/23 23:53	1
Lithium	ND		0.020	0.0091	mg/L		03/06/23 15:58	03/07/23 23:53	1

Lab Sample ID: LCS 280-604065/2-A

Matrix: Water

Analysis Batch: 604406

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 604065

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Boron	2.00	2.06		mg/L		103	86 - 110
Lithium	1.00	0.964		mg/L		96	90 - 112

Lab Sample ID: LCSD 280-604065/3-A

Matrix: Water

Analysis Batch: 604406

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 604065

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Boron	2.00	2.09		mg/L		104	86 - 110	1	20
Lithium	1.00	0.974		mg/L		97	90 - 112	1	20

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 280-603903/1-A
Matrix: Water
Analysis Batch: 604368

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/03/23 15:43	03/08/23 00:35	1
Arsenic	ND		0.0050	0.00050	mg/L		03/03/23 15:43	03/08/23 00:35	1
Barium	ND		0.0030	0.00038	mg/L		03/03/23 15:43	03/08/23 00:35	1
Cadmium	ND		0.0010	0.00019	mg/L		03/03/23 15:43	03/08/23 00:35	1
Chromium	ND		0.0030	0.00050	mg/L		03/03/23 15:43	03/08/23 00:35	1
Cobalt	ND		0.0010	0.00033	mg/L		03/03/23 15:43	03/08/23 00:35	1
Molybdenum	ND		0.0020	0.00037	mg/L		03/03/23 15:43	03/08/23 00:35	1
Selenium	ND		0.0050	0.0010	mg/L		03/03/23 15:43	03/08/23 00:35	1
Thallium	ND		0.0010	0.00021	mg/L		03/03/23 15:43	03/08/23 00:35	1

Lab Sample ID: MB 280-603903/1-A
Matrix: Water
Analysis Batch: 604535

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		200	4.2	ug/L		03/03/23 15:43	03/08/23 23:56	1
Sodium	149	J	1000	73	ug/L		03/03/23 15:43	03/08/23 23:56	1
Potassium	156	J	1000	52	ug/L		03/03/23 15:43	03/08/23 23:56	1
Beryllium	ND		0.0010	0.00030	mg/L		03/03/23 15:43	03/08/23 23:56	1
Lead	ND		0.0010	0.00023	mg/L		03/03/23 15:43	03/08/23 23:56	1
Calcium	ND		0.20	0.032	mg/L		03/03/23 15:43	03/08/23 23:56	1

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604368

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0415		mg/L		104	85 - 115
Arsenic	0.0400	0.0396		mg/L		99	85 - 117
Barium	0.0400	0.0413		mg/L		103	85 - 118
Cadmium	0.0400	0.0405		mg/L		101	85 - 115
Chromium	0.0400	0.0413		mg/L		103	84 - 121
Cobalt	0.0400	0.0414		mg/L		103	85 - 120
Molybdenum	0.0400	0.0418		mg/L		104	85 - 119
Selenium	0.0400	0.0414		mg/L		104	77 - 122
Thallium	0.0400	0.0406		mg/L		102	85 - 118

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604535

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Magnesium	800	816		ug/L		102	80 - 120
Beryllium	0.0400	0.0428		mg/L		107	80 - 125
Lead	0.0400	0.0403		mg/L		101	85 - 118
Calcium	0.800	0.911		mg/L		114	80 - 120

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-603903/2-A
Matrix: Water
Analysis Batch: 604580

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 603903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	800	921	J	ug/L		115	80 - 120
Potassium	800	859	J	ug/L		107	80 - 120

Lab Sample ID: MB 280-604071/1-A
Matrix: Water
Analysis Batch: 604367

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.0020	0.00040	mg/L		03/06/23 15:45	03/07/23 20:03	1
Arsenic	ND		0.0050	0.00050	mg/L		03/06/23 15:45	03/07/23 20:03	1
Barium	ND		0.0030	0.00038	mg/L		03/06/23 15:45	03/07/23 20:03	1
Cadmium	ND		0.0010	0.00019	mg/L		03/06/23 15:45	03/07/23 20:03	1
Chromium	ND		0.0030	0.00050	mg/L		03/06/23 15:45	03/07/23 20:03	1
Cobalt	ND		0.0010	0.00033	mg/L		03/06/23 15:45	03/07/23 20:03	1
Lead	0.000256	J	0.0010	0.00023	mg/L		03/06/23 15:45	03/07/23 20:03	1
Molybdenum	ND		0.0020	0.00037	mg/L		03/06/23 15:45	03/07/23 20:03	1
Selenium	ND		0.0050	0.0010	mg/L		03/06/23 15:45	03/07/23 20:03	1
Thallium	ND		0.0010	0.00021	mg/L		03/06/23 15:45	03/07/23 20:03	1

Lab Sample ID: MB 280-604071/1-A
Matrix: Water
Analysis Batch: 604536

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND		1000	73	ug/L		03/06/23 15:45	03/08/23 21:47	1
Potassium	ND		1000	52	ug/L		03/06/23 15:45	03/08/23 21:47	1
Calcium	ND		0.20	0.032	mg/L		03/06/23 15:45	03/08/23 21:47	1

Lab Sample ID: LCS 280-604071/2-A
Matrix: Water
Analysis Batch: 604367

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.0400	0.0412		mg/L		103	85 - 115
Arsenic	0.0400	0.0425		mg/L		106	85 - 117
Barium	0.0400	0.0412		mg/L		103	85 - 118
Cadmium	0.0400	0.0402		mg/L		101	85 - 115
Chromium	0.0400	0.0418		mg/L		105	84 - 121
Cobalt	0.0400	0.0422		mg/L		105	85 - 120
Lead	0.0400	0.0410		mg/L		102	85 - 118
Molybdenum	0.0400	0.0422		mg/L		105	85 - 119
Selenium	0.0400	0.0446		mg/L		112	77 - 122
Thallium	0.0400	0.0405		mg/L		101	85 - 118

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-604071/2-A
Matrix: Water
Analysis Batch: 604536

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604071

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sodium	800	865	J	ug/L		108	80 - 120
Potassium	800	846	J	ug/L		106	80 - 120
Calcium	0.800	0.920		mg/L		115	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-604562/1-A
Matrix: Water
Analysis Batch: 604781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604562

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000061	mg/L		03/09/23 13:30	03/09/23 18:26	1

Lab Sample ID: LCS 280-604562/2-A
Matrix: Water
Analysis Batch: 604781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 604562

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.00500	0.00501		mg/L		100	84 - 120

Method: 9040B - pH

Lab Sample ID: LCS 280-605123/7
Matrix: Water
Analysis Batch: 605123

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 280-604445/52
Matrix: Water
Analysis Batch: 604445

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			03/09/23 04:29	1

Lab Sample ID: MB 280-604445/6
Matrix: Water
Analysis Batch: 604445

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			03/08/23 14:17	1

Lab Sample ID: LCS 280-604445/4
Matrix: Water
Analysis Batch: 604445

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	49.1		mg/L		98	90 - 110

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Method: 9056A - Anions, Ion Chromatography

Lab Sample ID: LCS 280-604445/50

Matrix: Water

Analysis Batch: 604445

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.3		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-604445/5

Matrix: Water

Analysis Batch: 604445

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	50.0	49.4		mg/L		99	90 - 110	1	10

Lab Sample ID: LCSD 280-604445/51

Matrix: Water

Analysis Batch: 604445

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	50.0	50.1		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-604445/3

Matrix: Water

Analysis Batch: 604445

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.33	J	mg/L		93	50 - 150

Lab Sample ID: MB 280-604608/50

Matrix: Water

Analysis Batch: 604608

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			03/10/23 03:04	1
Sulfate	ND		5.0	1.0	mg/L			03/10/23 03:04	1

Lab Sample ID: MB 280-604608/6

Matrix: Water

Analysis Batch: 604608

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			03/09/23 15:17	1

Lab Sample ID: LCS 280-604608/4

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	50.0	50.0		mg/L		100	90 - 110

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: LCS 280-604608/48

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.6		mg/L		101	90 - 110
Sulfate	50.0	50.4		mg/L		101	90 - 110

Lab Sample ID: LCSD 280-604608/49

Matrix: Water

Analysis Batch: 604608

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	50.0	50.7		mg/L		101	90 - 110	0	10
Sulfate	50.0	50.5		mg/L		101	90 - 110	0	10

Lab Sample ID: LCSD 280-604608/5

Matrix: Water

Analysis Batch: 604608

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	50.0	50.0		mg/L		100	90 - 110	0	10

Lab Sample ID: MRL 280-604608/3

Matrix: Water

Analysis Batch: 604608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	2.50	2.55	J	mg/L		102	50 - 150
Sulfate	2.50	2.35	J	mg/L		94	50 - 150

Lab Sample ID: MB 280-604627/13

Matrix: Water

Analysis Batch: 604627

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			03/09/23 16:52	1

Lab Sample ID: LCS 280-604627/11

Matrix: Water

Analysis Batch: 604627

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.44		mg/L		98	90 - 110

Lab Sample ID: LCSD 280-604627/12

Matrix: Water

Analysis Batch: 604627

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	2.50	2.49		mg/L		99	90 - 110	2	10

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: MRL 280-604627/10
Matrix: Water
Analysis Batch: 604627

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.250	0.328	J	mg/L		131	50 - 150

Lab Sample ID: MB 280-604744/6
Matrix: Water
Analysis Batch: 604744

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			03/10/23 16:47	1

Lab Sample ID: LCS 280-604744/4
Matrix: Water
Analysis Batch: 604744

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	2.50	2.28		mg/L		91	90 - 110

Lab Sample ID: LCSD 280-604744/5
Matrix: Water
Analysis Batch: 604744

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	2.50	2.30		mg/L		92	90 - 110	1	10

Lab Sample ID: MRL 280-604744/3
Matrix: Water
Analysis Batch: 604744

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

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec Limits
Fluoride	0.250	0.232	J	mg/L		93	50 - 150

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-604200/110
Matrix: Water
Analysis Batch: 604200

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	3.42	J	10	3.1	mg/L			03/07/23 00:20	1
Bicarbonate Alkalinity as CaCO3	3.42	J	10	3.1	mg/L			03/07/23 00:20	1
Carbonate Alkalinity as CaCO3	ND		10	3.1	mg/L			03/07/23 00:20	1

Lab Sample ID: LCS 280-604200/109
Matrix: Water
Analysis Batch: 604200

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	200	208		mg/L		104	89 - 109

Eurofins Denver

QC Sample Results

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

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

Lab Sample ID: MB 280-604273/1
Matrix: Water
Analysis Batch: 604273

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			03/07/23 12:47	1

Lab Sample ID: LCS 280-604273/2
Matrix: Water
Analysis Batch: 604273

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	474		mg/L		95	88 - 114

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

Lab Sample ID: MB 280-604025/3
Matrix: Water
Analysis Batch: 604025

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			03/03/23 16:27	1

Lab Sample ID: LCS 280-604025/1
Matrix: Water
Analysis Batch: 604025

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	505	411		mg/L		81	79 - 114

Lab Sample ID: LCSD 280-604025/2
Matrix: Water
Analysis Batch: 604025

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	505	410		mg/L		81	79 - 114	0	20

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Metals

Prep Batch: 603903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	3005A	
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 603935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	3005A	
MB 280-603935/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-603935/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-173023-3 MS	W-1	Total Recoverable	Water	3005A	
280-173023-3 MSD	W-1	Total Recoverable	Water	3005A	

Prep Batch: 604065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	3005A	
280-173023-2	MW-8	Total Recoverable	Water	3005A	
MB 280-604065/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-604065/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 280-604065/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 604071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	3005A	
280-173023-2	MW-8	Total Recoverable	Water	3005A	
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 604207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6010C	603935
MB 280-603935/1-A	Method Blank	Total Recoverable	Water	6010C	603935
LCS 280-603935/2-A	Lab Control Sample	Total Recoverable	Water	6010C	603935
280-173023-3 MS	W-1	Total Recoverable	Water	6010C	603935
280-173023-3 MSD	W-1	Total Recoverable	Water	6010C	603935

Analysis Batch: 604367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	6020B	604071
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604071

Analysis Batch: 604368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	6020B	603903
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6010C	604065

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Metals (Continued)

Analysis Batch: 604406 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total Recoverable	Water	6010C	604065
MB 280-604065/1-A	Method Blank	Total Recoverable	Water	6010C	604065
LCS 280-604065/2-A	Lab Control Sample	Total Recoverable	Water	6010C	604065
LCSD 280-604065/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010C	604065

Analysis Batch: 604535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
280-173023-3	W-1	Total Recoverable	Water	6020B	603903
MB 280-603903/1-A	Method Blank	Total Recoverable	Water	6020B	603903
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
MB 280-604071/1-A	Method Blank	Total Recoverable	Water	6020B	604071
LCS 280-604071/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604071

Prep Batch: 604562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	7470A	
280-173023-2	MW-8	Total/NA	Water	7470A	
280-173023-3	W-1	Total/NA	Water	7470A	
MB 280-604562/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-604562/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 604580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-1	MW-9	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
280-173023-2	MW-8	Total Recoverable	Water	6020B	604071
LCS 280-603903/2-A	Lab Control Sample	Total Recoverable	Water	6020B	603903

Analysis Batch: 604632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total Recoverable	Water	6010C	604065

Analysis Batch: 604781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	7470A	604562
280-173023-2	MW-8	Total/NA	Water	7470A	604562
280-173023-3	W-1	Total/NA	Water	7470A	604562
MB 280-604562/1-A	Method Blank	Total/NA	Water	7470A	604562
LCS 280-604562/2-A	Lab Control Sample	Total/NA	Water	7470A	604562

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Analysis Batch: 604025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2540D	
280-173023-2	MW-8	Total/NA	Water	SM 2540D	
MB 280-604025/3	Method Blank	Total/NA	Water	SM 2540D	
LCS 280-604025/1	Lab Control Sample	Total/NA	Water	SM 2540D	
LCSD 280-604025/2	Lab Control Sample Dup	Total/NA	Water	SM 2540D	

Analysis Batch: 604200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2320B	
280-173023-2	MW-8	Total/NA	Water	SM 2320B	
MB 280-604200/110	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-604200/109	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 604273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	SM 2540C	
280-173023-2	MW-8	Total/NA	Water	SM 2540C	
MB 280-604273/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-604273/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 604445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
MB 280-604445/52	Method Blank	Total/NA	Water	9056A	
MB 280-604445/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604445/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-604445/50	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604445/5	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-604445/51	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604445/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 604608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
280-173023-2	MW-8	Total/NA	Water	9056A	
280-173023-2	MW-8	Total/NA	Water	9056A	
MB 280-604608/50	Method Blank	Total/NA	Water	9056A	
MB 280-604608/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604608/4	Lab Control Sample	Total/NA	Water	9056A	
LCS 280-604608/48	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604608/49	Lab Control Sample Dup	Total/NA	Water	9056A	
LCSD 280-604608/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604608/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 604627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-2	MW-8	Total/NA	Water	9056A	
MB 280-604627/13	Method Blank	Total/NA	Water	9056A	
LCS 280-604627/11	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604627/12	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604627/10	Lab Control Sample	Total/NA	Water	9056A	

Eurofins Denver

QC Association Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

General Chemistry

Analysis Batch: 604744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9056A	
MB 280-604744/6	Method Blank	Total/NA	Water	9056A	
LCS 280-604744/4	Lab Control Sample	Total/NA	Water	9056A	
LCSD 280-604744/5	Lab Control Sample Dup	Total/NA	Water	9056A	
MRL 280-604744/3	Lab Control Sample	Total/NA	Water	9056A	

Analysis Batch: 605123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-173023-1	MW-9	Total/NA	Water	9040B	
280-173023-2	MW-8	Total/NA	Water	9040B	
LCS 280-605123/7	Lab Control Sample	Total/NA	Water	9040B	

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-9

Date Collected: 03/01/23 13:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-1

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	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604406	03/08/23 00:05	ADL	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604367	03/07/23 20:18	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		10			604536	03/08/23 22:07	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			604580	03/09/23 09:05	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604580	03/09/23 09:13	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:46	KMS	EET DEN
Total/NA	Analysis	9040B		1			605123	03/14/23 10:38	KEG	EET DEN
Total/NA	Analysis	9056A		500	5 mL	5 mL	604608	03/10/23 00:04	MEC	EET DEN
Total/NA	Analysis	9056A		50	5 mL	5 mL	604445	03/09/23 05:17	MEC	EET DEN
Total/NA	Analysis	9056A		1	5 mL	5 mL	604744	03/10/23 21:41	MEC	EET DEN
Total/NA	Analysis	SM 2320B		1			604200	03/07/23 03:38	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	604273	03/07/23 12:47	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	250 mL	250 mL	604025	03/03/23 16:27	MCR	EET DEN

Client Sample ID: MW-8

Date Collected: 03/01/23 16:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2

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	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604406	03/08/23 00:10	ADL	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604065	03/06/23 15:58	LJS	EET DEN
Total Recoverable	Analysis	6010C		5			604632	03/09/23 06:01	KRP	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604367	03/07/23 20:23	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		10			604536	03/08/23 22:09	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		50			604580	03/09/23 09:07	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	604071	03/06/23 15:45	LJS	EET DEN
Total Recoverable	Analysis	6020B		1			604580	03/09/23 09:14	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:49	KMS	EET DEN
Total/NA	Analysis	9040B		1			605123	03/14/23 10:42	KEG	EET DEN
Total/NA	Analysis	9056A		1000	5 mL	5 mL	604608	03/10/23 06:19	MEC	EET DEN
Total/NA	Analysis	9056A		20	5 mL	5 mL	604608	03/10/23 06:34	MEC	EET DEN
Total/NA	Analysis	9056A		1	10 mL	10 mL	604627	03/09/23 19:54	MEC	EET DEN

Eurofins Denver

Lab Chronicle

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Client Sample ID: MW-8

Date Collected: 03/01/23 16:55

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1			604200	03/07/23 03:54	KEG	EET DEN
Total/NA	Analysis	SM 2540C		1	1 mL	100 mL	604273	03/07/23 12:47	MCR	EET DEN
Total/NA	Analysis	SM 2540D		1	50 mL	250 mL	604025	03/03/23 16:27	MCR	EET DEN

Client Sample ID: W-1

Date Collected: 03/01/23 11:30

Date Received: 03/02/23 09:40

Lab Sample ID: 280-173023-3

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	603935	03/03/23 15:35	LJS	EET DEN
Total Recoverable	Analysis	6010C		1			604207	03/07/23 06:03	KRP	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		1			604368	03/08/23 00:48	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		50			604535	03/08/23 23:59	LMT	EET DEN
Total Recoverable	Prep	3005A			50 mL	50 mL	603903	03/03/23 15:43	MSM	EET DEN
Total Recoverable	Analysis	6020B		1			604535	03/09/23 00:19	LMT	EET DEN
Total/NA	Prep	7470A			30 mL	50 mL	604562	03/09/23 13:30	KMS	EET DEN
Total/NA	Analysis	7470A		1			604781	03/09/23 18:56	KMS	EET DEN

Laboratory References:

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

Accreditation/Certification Summary

Client: HDR Inc
Project/Site: Xcel Energy GW CCR Monitoring - Comanche

Job ID: 280-173023-1

Laboratory: Eurofins Denver

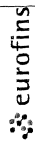
Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

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		Water	Temperature

Eurofins Denver

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

Chain of Custody Record



Environment Testing
America

Client Information Client Contact: Ms. Sierra Schupp Company: HDR Inc Address: 1670 Broadway Suite 3400 City: Denver State, Zip: CO, 80202 Phone: 734-263-7138(Tel) Email: Sierra.Schupp@hdrinc.com Project Name: Xcel Energy GW CCR Monitoring - Comanche Site: Colorado On-Site Wells		Sampler: Francis Li Lab PM: Ryan, Nicole C E-Mail: Nicole.Ryan@ET.eurofins.com Phone: 710-261-5222 PWSID:		Carrier Tracking No(s): 280-123984-34657.2 State of Origin: Page 2 of 2 Job #:		COC No: 280-123984-34657.2 Page: Page 2 of 2 Job #:	
Analysis Requested Due Date Requested: TAT Requested (days): Compliance Project: ☐ Yes ☐ No PO #: DEN-021 WO #: Project #: 28014376 SSOW#:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) App III and IV Metals: Bo, Ca, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Li, Mo, Se, Ti Total Mercury Additional Metals: Mg, Na, K 9056 Anions: Chloride, Fluoride, Sulfate 2540C: TDS 2540D: TSS 9040 pH 2320 Alkalinity RAD: Ra226, Ra228, Ra226+228		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:		Preservation Codes: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Y - Trizma Z - other (specify)	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=water, S=solid, O=waste/oli, BT=Tissue, A=air)		Preservation Code: MW-9 MW-8 W-1		Total Number of Containers Special Instructions/Note: Please treat W-1 as the completion of "W-1" sample set dropped of 02/23/23. There was not enough volume to fill all bottles previously.		Barcode: 280-173023 Chain of Custody	
Possible Hazard Identification ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Date: 03/01/23 0940 Date: 03/01/23 1655 Date: 03/01/23 1130		Date: 3/2/23 0940 Date: 3/2/23 0955 Date: 3/2/23 0955		Date: 3/2/23 0940 Date: 3/2/23 0955 Date: 3/2/23 0955	
Empty Kit Relinquished by:		Date: 03/01/23 0940 Company: HDR		Date: 3/2/23 0940 Company: HDR		Date: 3/2/23 0940 Company: HDR	
Relinquished by:		Date: 03/01/23 1655 Company:		Date: 3/2/23 0955 Company:		Date: 3/2/23 0955 Company:	
Relinquished by:		Date: 03/01/23 1130 Company:		Date: 3/2/23 0955 Company:		Date: 3/2/23 0955 Company:	
Custody Seals Intact: ☐ Yes ☐ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.5 / 10.1		Cooler Temperature(s) °C and Other Remarks:		Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: HDR Inc

Job Number: 280-173023-1

Login Number: 173023

List Number: 1

Creator: Roehsner, Karen P

List Source: Eurofins Denver

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